

# Construction



Southern construction awards are valued at \$2,726,408,000 for the first eight months of this year, this representing a thirty-eight per cent increase over the figure for the comparable period of last year.

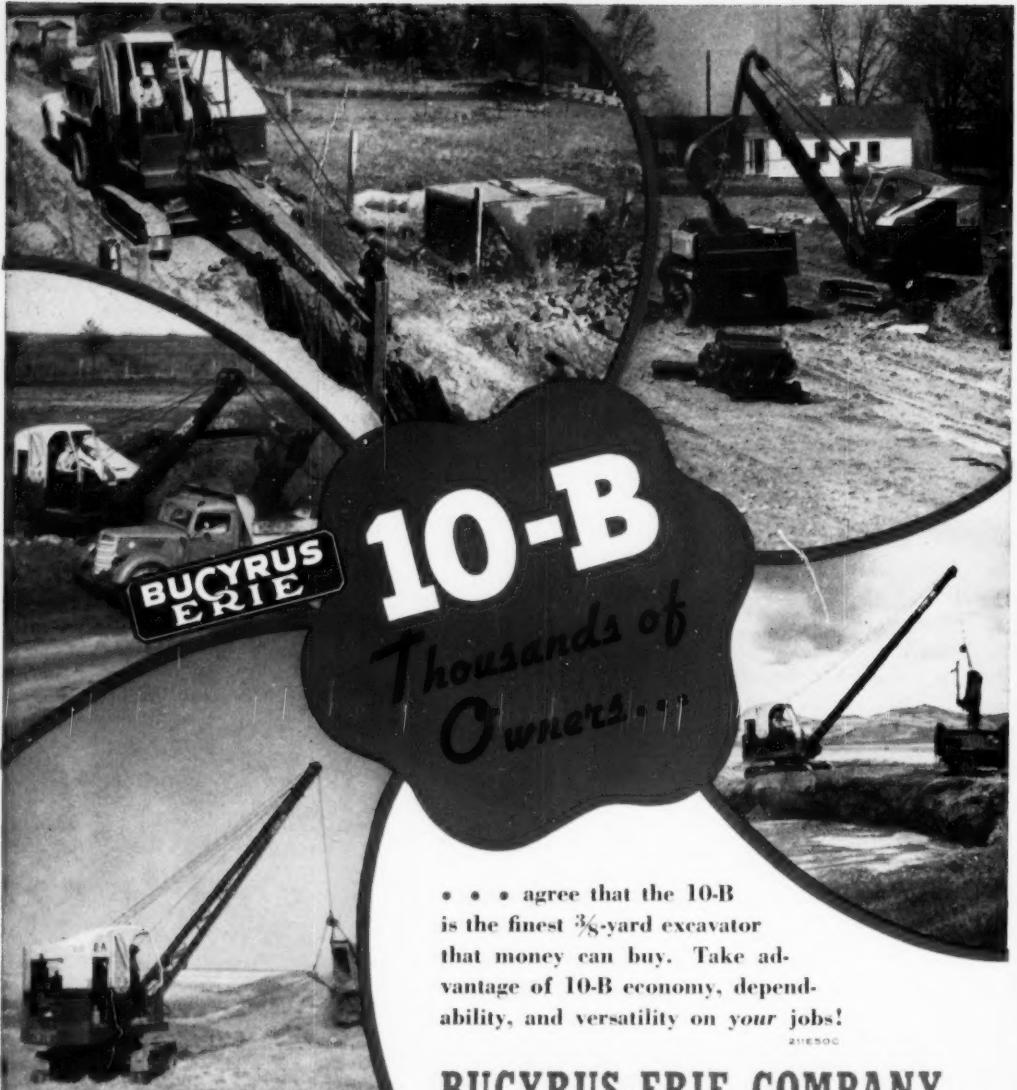
The \$2,726,408,000 aggregate is the highest for all comparable periods except that in the war year of 1942 and includes \$858,672,000 for private building; \$622,341,000 for industrial construction; \$505,431,000 for public building; \$389,867,000 for highways and \$350,097,000 for heavy engineering construction.

Construction contracts in August in the sixteen-state area were valued at \$361,424,000. Thirteen per cent above the level for the eighth month of 1949, the total includes \$104,763,000 for private building; \$94,666,000 for industrial work; \$72,711,000 for public building; \$44,660,000 for engineering projects and \$44,624,000 for highways.

SEPTEMBER 1950

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SEPTEMBER, 1950

## Drainage Tunnel Proposed To Havre de Grace

A tunnel from the Pennsylvania coal fields to Havre de Grace, Md., is in prospect. The Bureau of Mines for sometime has been engaged in an engineering study of the water problems of the Keystone State's anthracite mines to determine what is the solution to their increasing pumping problems.

One of the possible methods, according to S. H. Ash, chief of the bureau's safety division, is construction of a twin tunnel to drain 100 underground lakes in eastern Pennsylvania into the Chesapeake Bay at the mouth of the Susquehanna River.

The proposal is one of several for attacking the problem, the ultimate goal of which is to lower pumping costs and extend the life of the anthracite industry by increasing the mineable reserves of the fuel produced. Cost of such a tunnel has been estimated at \$1,000,000 a mile.

## Pensacola Firm Works On Caracas Airfield

Smith Engineering and Construction Co. of Pensacola, Fla., is cashing in on the development of oil-rich Venezuela and has begun work on a big international airport at the foot of the mountains around Caracas.

During the past four years the Pensacola firm has built 250 miles of highways in Venezuela and completed a harbor jetty construction job there. The airport will be the biggest project yet, with runways extending up to 7,000 feet in length and 300 feet in width. R. J. Hammons of Pensacola will be superintendent on the airport project.

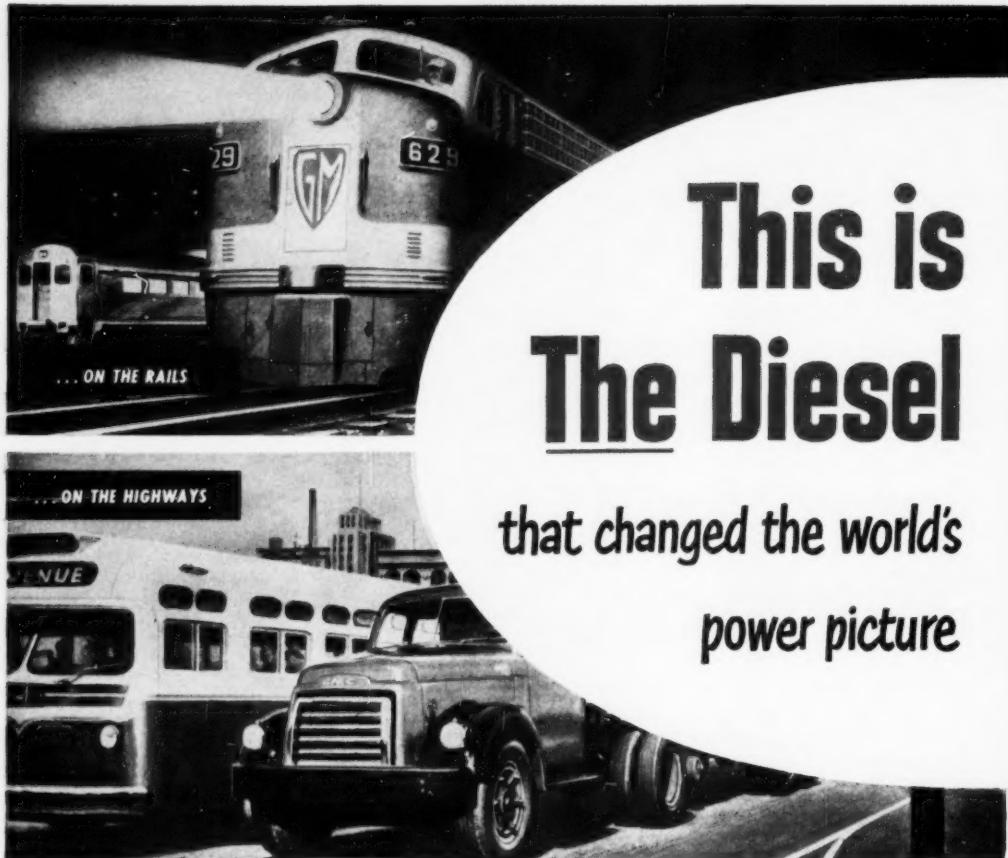
The contractor plans to use granite aggregate taken from the Venezuelan mountains and is transporting its own rock-crushing machinery to La Guaira, port of Caracas, to crush the stone. A portable crusher formerly used in the Florida limestone fields at Crystal River was shipped to Venezuela in August.

## Runway Job Planned

A \$3,750,000 contract to extend runways at Cecil Field, outside Jacksonville, Fla., is in the offing if the Department of Defense and Congress approve a project set forth by the Navy Department.

Cecil Field has had an up and down existence during the past few years, serving as an auxiliary to the big Naval Air Station at Jacksonville. NAS Jacksonville has been designated as a fleet operating base. The Navy wants to make Cecil Field into a master jet plane base and must enlarge the existing runways to accommodate the jets.

Other large-scale Navy construction is expected at Mayport, Fla., when the Navy begins converting a former small Navy field and ship basin there into a carrier operating base. The project has been authorized, and funds are expected to be set up for the job shortly. Mayport is at the mouth of the St. Johns river about 25 miles from Jacksonville.



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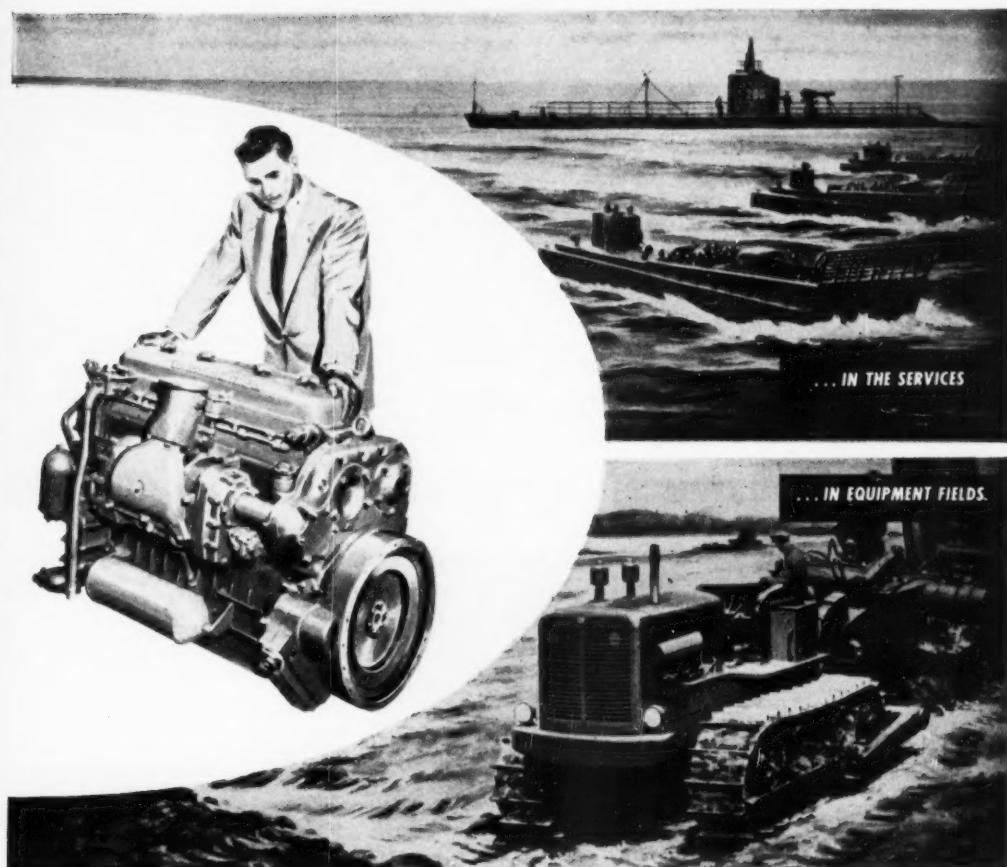
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And a third—the GM Series 71 engine—is the most widely used of all, totaling 46,000,000 horsepower. *It has surmounted the exacting conditions of War and met the economic requirements of Peace.* It has brought the same efficiency to a wide range of jobs, including many where Diesel power was never usable before.

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These basic differences make GM Diesels far more compact and much lighter than other Diesels of equal horsepower—without sacrificing ruggedness. These engines accelerate faster, are unmatched for smoothness, start quickly and are clean-burning.



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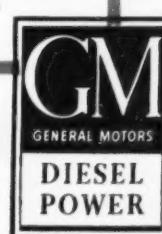
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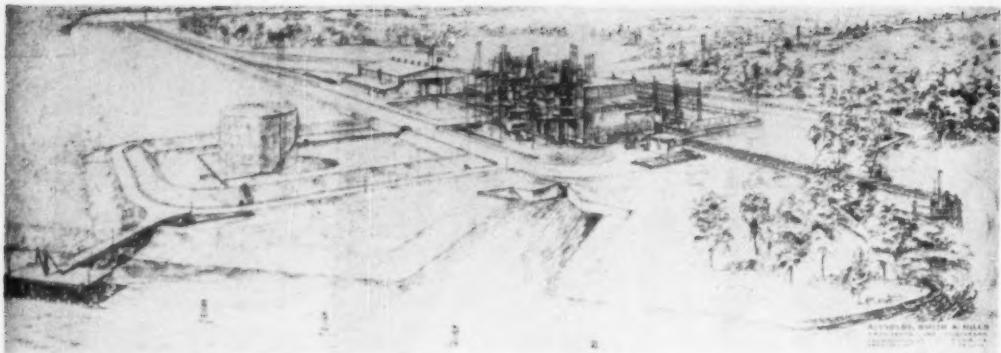
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Above—Perspective of St. Marks power being constructed for the City of Tallahassee, Fla., by Ivy H. Smith Co., of Jacksonville. Reynolds, Smith & Hills, of Jacksonville, are the engineers and architects.

## South's Construction Valued at \$2,726,408,000



Above—Aerial view of El Dorado chemical plant of Lion Oil Co. showing major construction projects which increased anhydrous ammonia production capacity by more than 30 per cent and raised production capacity and improved product quality of ammonium nitrate fertilizer by revamping pelletizing plant and added facilities for manufacture of sulphuric acid and sulphate of ammonia.

### SOUTH'S CONSTRUCTION BY STATES

	August, 1950		Contracts Awarded First Eight Months 1950		Contracts Awarded First Eight Months 1949	
	Contracts Awarded	Contracts to be Awarded	First Eight Months	1950	First Eight Months	1949
Alabama	\$4,346,000	\$21,818,000	\$87,026,000	\$48,973,000		
Arkansas	2,025,000	22,856,000	74,884,000	53,778,000		
District of Columbia	206,000	17,316,000	17,346,000	50,927,000		
Florida	36,231,000	64,222,000	250,439,000	172,807,000		
Georgia	11,286,000	18,726,000	88,002,000	78,291,000		
Kentucky	24,158,000	34,325,000	78,727,000	53,653,000		
Louisiana	29,020,000	66,028,000	252,205,000	145,238,000		
Maryland	37,375,000	29,236,000	229,369,000	156,181,000		
Mississippi	3,925,000	9,200,000	22,711,000	79,778,000		
Missouri	14,455,000	25,493,000	189,160,000	53,500,000		
North Carolina	46,167,000	28,984,000	262,462,000	110,807,000		
Oklahoma	17,049,000	28,139,000	93,665,000	61,116,000		
South Carolina	12,286,000	9,622,000	90,865,000	65,865,000		
Tennessee	19,306,000	15,482,000	140,624,000	179,169,000		
Texas	85,217,000	129,198,000	595,083,000	562,648,000		
Virginia	11,203,000	31,197,000	171,912,000	76,647,000		
West Virginia	6,314,000	3,137,000	19,162,000	13,262,000		
<b>TOTAL</b>	<b>\$361,624,000</b>	<b>\$589,502,000</b>	<b>\$2,726,408,000</b>	<b>\$1,968,850,000</b>		

VALUE of August construction contracts, as reported in the *Daily Construction Bulletin* of THE MANUFACTURERS RECORD, was \$361,424,000. The figure is the third highest for the year so far, being forty-one per cent below that for the preceding month and about thirteen per cent ahead of the eighth month of last year.

Total of awards in the sixteen-state area below the Mason and Dixon Line is \$2,726,408,000 for the first eight months. This is more than thirty-eight per cent ahead of the aggregate for the comparable period of 1949 and represents the second highest total for the first two-thirds of year in southern construction history.

The \$361,424,000 total for August embraces \$104,763,000 for private building; \$94,666,000 for industrial construction; \$72,711,000 for public buildings; \$44,660,000 for heavy engineering construction, and \$44,624,000 for highways, streets and bridges.

Private building in August is down twenty-two per cent when compared with the total for the preceding month, although it is forty-four per cent above the level for such work in the same month of last year.

Current August private building is made up of \$62,268,000 for residential construction; \$16,120,000 for commercial building; \$14,808,000 for assembly buildings and \$11,567,000 for office buildings.

Industrial construction, the second highest total for the month, is down considerably from the total for July when several large pipeline awards were made and important projects were announced in the chemical industry in Kentucky, Texas and Virginia. A \$17,000,000 contract for another Kentucky chemical plant and a \$13,500,000 North Carolina paper plant, however, were substantial contributors to the August total.

Public building in August, with its \$72,711,000 total, shows a decrease of thirty-nine per cent from the July level

for such work. Almost ten per cent higher than its counterpart in the same month of last year, the current figure consists of \$39,347,000 for government buildings and \$33,364,000 for schools.

Engineering construction, while ranking fourth among the categories in August, is the field which showed a gain when compared with the prior month and August of last year. The increases were twenty per cent and forty-four per cent, respectively.

Highway and bridge construction in the South in August totaled \$44,624,000, a figure which included awards in all of the sixteen states and the District of Columbia, although it was a decline from the total for the preceding month and for the eighth month of last year. Nine states—Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Tennessee, Texas and Virginia—contributed two million dollars or more to the August figure.

The \$2,726,408,000 accumulation of southern construction awards is well above the total for eight-month periods of every year except in 1942, when the comparable figure was \$3,000,022,000. Last year at this time, the total was \$1,968,850,000, or about thirty-eight per cent below the current level.

Elements of the eight-month figure for 1950 are \$858,672,000 for private building; \$622,341,000 for industrial construction; \$505,431,000 for public building; \$889,867,000 for highways, streets and bridges, and \$350,997,000 for heavy engineering construction. Rises were registered in all five fields.

The \$858,672,000 for private building is almost fifty-two per cent above the figure for similar work in the first eight months of last year. Included in the total are \$638,662,000 for residential work; \$85,634,000 for assembly buildings, many of which are churches; \$78,761,000 for commercial buildings, and \$55,615,000 for office buildings. The latter is the only type of private building showing a decline.

Industrial construction in the first eight months is up seventy per cent, when compared with the \$365,521,000 for the first two-thirds of last year. Industrial awards in the eight-month periods of the four immediately prior years were: 1948, \$287,299,000; 1947, \$289,377,000; 1946, \$270,580,000, and 1945, \$283,266,000.

The \$505,431,000 for public building, when compared with the \$463,559,000 for this type of work in the eight months of last year, represents an increase of nine per cent. Constituents of the current total are \$248,213,000 for government building and \$257,218,000 for school buildings.

Engineering construction for the year so far shows a substantial gain. The \$350,997,000 for this category in the first eight months is thirty-nine per cent above the value placed on the projects initiated in the comparable period of last year. The current figure is made up of \$165,355,000 for dams, drainage, earthwork and airports; \$92,820,000 for government electric projects, and \$81,922,000 for sewer and water work.

The increase represented by the \$389,

## SOUTH'S CONSTRUCTION BY TYPES

	August, 1950 Contracts Awarded	Contracts to be Awarded	Contracts Awarded First Eight Months 1950	Contracts Awarded First Eight Months 1949
<b>PRIVATE BUILDING</b>				
Assembly (Churches, Theatres, Auditoriums, Fraternal)	\$11,808,000	\$11,440,000	\$85,634,000	\$68,663,000
Commercial (Stores, Restaurants, Service Stations, Garages)	16,120,000	18,372,000	78,761,000	34,944,000
Residential (Apartments, Hotels, Dwelling)	62,268,000	36,573,000	638,662,000	346,970,000
Office	11,567,000	7,545,000	55,615,000	85,066,000
	<b>\$104,763,000</b>	<b>\$73,930,000</b>	<b>\$858,672,000</b>	<b>\$355,643,000</b>
<b>INDUSTRIAL</b>				
City, County, State, Federal & Hospitals	\$39,347,000	\$84,580,000	\$248,213,000	\$259,423,000
Schools	33,364,000	56,526,000	257,218,000	204,136,000
	<b>\$72,711,000</b>	<b>\$141,106,000</b>	<b>\$505,431,000</b>	<b>\$463,559,000</b>
<b>PUBLIC BUILDING</b>				
State, County, Municipal, Electric	\$22,104,000	\$52,631,000	\$165,355,000	\$113,761,000
Sewers and Waterworks	3,725,000	13,431,000	92,820,000	56,965,000
	18,831,000	26,751,000	91,922,000	79,983,000
	<b>\$44,660,000</b>	<b>\$92,813,000</b>	<b>\$350,997,000</b>	<b>\$250,711,000</b>
<b>ROADS, STREETS AND BRIDGES</b>				
	<b>\$44,621,000</b>	<b>\$81,761,000</b>	<b>\$389,867,000</b>	<b>\$333,416,000</b>
	<b>\$361,424,000</b>	<b>\$589,562,000</b>	<b>\$2,726,408,000</b>	<b>\$1,968,850,000</b>

\$67,000 value placed on southern highway and bridge projects in the first eight months is almost seventeen per cent when compared with the \$333,416,000 for the same period of last year. Eight-month totals for such work in prior years were: \$393,369,000 for 1949; \$324,601,000 for 1948; \$261,381,000 for 1947; \$245,244,000 for 1946, and \$72,572,000 for 1945.

Building materials production is reported at an all-time high by the Department of Commerce and also by the Producers Council, a national organization of manufacturers of such products. However, the current war situation is known to be retarding expansion or construction plans in several instances.

Ability of manufacturers to meet the demand for building products, according to the Council, will be determined not by capacity but by the available supply of raw materials and manpower, with "enough of most materials to carry on a volume of building which would have been considered large in any year except during the recent postwar period."

The Department of Commerce says the

output of lumber, hardwood flooring, cement, softwood plywood and gypsum board was substantially above earlier post-war peaks and almost twice as much cement was produced in May as in the average month before the war. An index of material output was described as advancing to 167 to reflect a greater-than-seasonable increase of thirteen per cent over the preceding month.

Despite these observations, shortages of materials are reported. Virginia highway engineers say the dearth of cement is "critical" and has slowed down work on road and bridge projects in their state. Several projects have been partially shut down since June. Cement plant strikes, heavy building in other fields in the road construction season and at least one large dam operation were cited as reasons.

Steel is another material, where mill order backlog continue to mount. Manufacturers are said to be slow in accepting new orders, until the needs of the government for war activities are crystallized. Gray markets are said to be de-

(Continued on page 57)

*Below—Commercial Solvents Corp. is constructing a million dollar addition to its Sterlington, La. ammonia plant. Contractors are Foster-Hamilton, Inc., Cincinnati, Ohio.*





## Loads and Roads

The weight of truck loads and the effect of this weight on our highways has long been a subject of bitter controversy. Construction men have claimed that overloading ruins roads. They back this statement with many technical reasons and illustrations, but they all boil down to those three words—overloading ruins roads.

Truck associations counter this with a barrage of scatter shot. They say that such propaganda is inspired by the railroads. They say that the fault is not with the trucks, which can handle such loads, but with the roads, which are entirely inadequate. They say that only a very small minority of the truckers are guilty of violating weight limit laws. They say that trucks don't do much damage anyway. In fact, there doesn't seem to be much they don't say.

Now, however, it looks as though something more constructive than mere vilification will enter the picture. Rigidly controlled tests are being made on a section of highway in southern Maryland which should tell factually the amount of damage done to a road by loads of varying weights.

Before the tests started, the entire 1.1 miles of the test highway was surveyed and existing cracks painted and recorded. Loads from 18,000 pounds on single-axle trucks to 44,800 pounds on tandem-axle units are being tested, each on a different segment of the highway. Every six weeks the road surface is rechecked for cracks, and new ones are reported. The condition of the highway at the end of the experiment should speak for itself.

The final outcome is being awaited with great interest by contractors, truckers, and state legislators. It should clear away the fog of recriminations and produce grounds for constructive action.

# Analysis of the Two-Span Rigid Frame Highway Bridge\*

## PART I

### PRINCIPLES AND THEORY

#### Fixed versus Free Supports

Possibly the most troublesome problem in the design of rigid frame bridges has to do with the degree of fixity of the end supports. A fixed end is defined as an end condition which is capable of resisting end moment without rotation, while a free end is one so constructed that there is no resistance to angular rotation and therefore no end moment. When the foundation material is good quality rock, a design accomplishing practically full fixed condition may be economical. For soils having appreciable compressibility under load, footings may easily become unreasonably large in size if fixed end moments are developed without exceeding allowable soil pressures.

The nature of the rigid frame structure causes the location and direction of the reaction on the foundation to vary with the loading. The horizontal reactions due to earth pressure against the end walls of the frame, and reactions caused by shrinkage and drop in temperature are opposed in direction to the horizontal reactions due to vertical loads on the frame, and temperature rise. Combinations of possible unbalanced earth loadings with temperature, shrinkage, dead load and live load may cause the location of the end resultants to vary over considerable range at the bottom of the footings. In other words, the eccentricities of the vertical reactions resulting from fixed end conditions may vary considerably. These considerations require widths of footings each way from the center of the vertical member sufficient to provide stability for all conditions of loading and to prevent loading the soil with excessive pressures. Any unequal distribution of soil pressure on the foundation material will cause unequal settlement and rotation of the end support. Obviously, the pressure cannot be centralized for all conditions of loading, hence there must be angular rotations of the end support for each change in loading and temperature variation. The

by  
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amount of angular rotation will, of course, depend on the characteristics of the foundation material, and will be very small when the footings are on good rock. Any rotation of the end support will have an effect on the magnitude of the end moment developed—the importance of that effect depending on the amount of rotation. It can be demonstrated that the end rotation to be expected with footings designed to provide for the fixed end moment, and on good foundation material, will be small when compared with the end rotation for a free end condition; hence end rotation will have a relatively small effect on the computed fixed end moment.

Opposed to the principle of providing fully fixed end supports is an attempt to provide free or hinged supports. Various details have been used to simulate a hinge at the junction of the vertical wall and the footings. When the rigid frame is composed of steel ribs, a joint with relatively high degree of flexibility may be designed by properly executed detail. Hinged joints between concrete walls and footings have been less successful and do not provide freedom from end moment. The angular variation from free rotation of the end supports is probably greater for most hinged designs than the rotation of ends designed for fixed end conditions. The true condition of end supports may be classified as somewhere between fixed and free, never quite attaining either, but approaching the free or fixed condition according to the efficiency of the design. Footings have frequently been designed for reactions assumed to be centrally

placed and without end moment. These designs have been justified by reasoning that any end moment will be relieved by rotation of the footing in the soil. Considering that the relation of horizontal to vertical reactions is continuously changing and that the end moments may actually reverse in direction, the conception that the footing rocks to adjust itself to the varying conditions, always eliminating the end moment, is not entirely satisfactory. It must be admitted that few, if any, unsatisfactory results have been directly attributed to this type of "floating" footing design, but this fact does not fully justify the indefiniteness of the design.

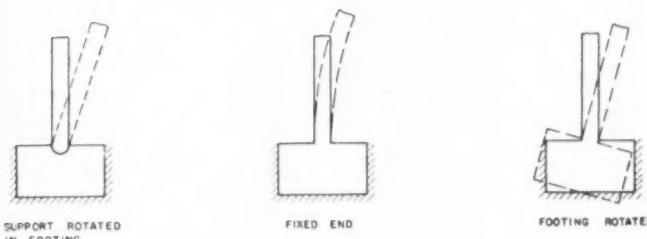
The degree of end fixity of the supports fortunately has little effect on the design of the rigid frame above the connections to the footings. In general, any end moment developed at the footing tends to relieve the positive bending moment in the horizontal span and to increase the bending moment at the knee of the frame. The effect at these points when the ends are fully fixed is usually in the order of five per cent of the simply supported moments. Hence, it may usually be assumed that the true condition of partially fixed ends will have a negligible effect on the design of the critical points in the frame, other than at the footings.

An inexpensive detail for the connection of a vertical concrete end wall to the footing, as shown in Figure 3, Simulated Free End, has been used quite extensively. The joint is formed by the use of a section of semi-circular corrugated iron pipe set into the concrete footing course. The surface of the corrugated iron is given a coating of pitch to reduce the frictional resistance and the vertical wall concrete is cast directly into the half cylinder formed by the metal. Although not frictionless, the joint is structurally sound. Data are not entirely satisfactory, and do not provide sufficient information about the proper frictional coefficients to use with this type of joint. Assuming a coefficient of friction of 1.00, the end moment developed will be equal to the resultant reaction times the radius of the joint. The resultant of all forces would be displaced from the center of the wall by an amount equal to the coefficient of friction times the radius of the semi-circle. See Figure 4, Effect of Friction on Free End Reactions, for a typical example. The resultant force may be inclined inward or outward depending on the loading conditions.

The slope of the resultant line is determined by the ratio of the horizontal to the vertical reactions at the top of the footing. This resultant force will be eccentric by an amount determined by the frictional moment, and will be combined with the weight of the footing to determine the location of the reaction at the base of the footing. The width of the footing will then be determined in the usual manner, by providing that the allowable soil pressure is not exceeded. When additional data become available, giving frictional coefficients for simulated hinged footings, a greater economy may be justified in footing sizes.

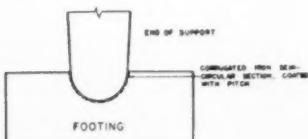
Because it has become customary to

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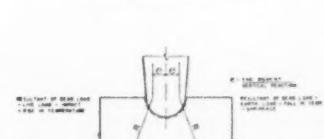


Above—Figure 2—End Conditions.

Below—Figure 3—Simulated Free End.



Below—Figure 4—Effect of Friction on Free End Reactions.



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# Analysis of the Two-Span Rigid Frame Highway Bridge

(Continued from page 11)

provide a simulated hinge joint in a large percentage of cases, and because the effect of fixed ends on design of the rigid frame is small in magnitude, the analysis which follows is based on free end conditions. Any magnitude of end moment could be applied to the frame by a simple process, if so desired.

## Mechanics of the Rigid Frame

Any analysis of the two span rigid frame problem will be based on certain fundamental relations. Having established these relations, any accurate method of analysis should provide the same answers.

The material of the structure is assumed to act elastically. That is, the assumptions usually used in structural analysis are considered valid. These assumptions are that stress is proportional to strain (Hooke's Law), that a plane section before bending remains plane during bending, and that action within the structure is that which would be expected of a homogeneous material.

The effective moment of inertia, for the purpose of distributing bending moments in a reinforced concrete frame, is considered to be the moment of inertia of the gross concrete area at any section. This assumption is based on many experimental data which indicate that the deflection of concrete members is closely related to the moment of inertia of the uncracked concrete section. For concrete cross-sections of T-shape, such as longitudinal ribs with a slab roadway, the entire concrete section is included in calculating the moment of inertia. More experimental substantiation of this hypothesis is desirable to establish the limits of the flange width (if any) to be included. The gross moment of inertia of steel members is used for distribution of moment in steel structures. For composite sections, involving concrete slabs on steel ribs, the moment of inertia of the entire transposed section will be used, provided the elements are sufficiently bonded together to insure composite action. Magnitudes of deformations will be computed by use of the transformed section, but with a value of modulus of elasticity consistent with the substitution.

The line connecting the centroids of all sections is considered to be the working line, or neutral axis, in the case of pure bending. Deformations due to bending are considered to be zero at this working line, and direct force acting along this line produces equal shortening of all elements of the cross-section. These relations are considered valid for the distribution of moment but, having the moments and direct forces at various sections, the unit stresses will be calculated in the usual manner—that is, by use of the cracked section for reinforced concrete, and with rivet holes out of the tension side of steel members.

The change in slope of the tangents to the elastic curve between any two points in an elastic structure is equal to the  $\frac{Mds}{EI}$  between the two points. In the

general case, when the working line (as defined above) is not straight, bending moment produces change in span length equal to  $\frac{My}{EI} ds$ , where  $y$  is a vertical

ordinate from the line connecting the supports to the working line at the point considered, and the summation is from support to support. When horizontal change in span length is prevented by the nature of the supports, the value  $\frac{My}{EI} ds$  may

be set equal to zero. In the above expressions,  $M$  is the bending moment from any cause whatsoever acting on a very short length  $ds$  of the structure,  $E$  is Young's Modulus for the material of the frame, and  $I$  is the moment of inertia of the cross section at the  $ds$  length.

## Conditions of Loading

The 1944 Standard Specifications for Highway Bridges, adopted by the American Association of State Highway Officials, may be considered as typical in their requirements for loading. The various loadings which would be required under these Specifications follow.

**Dead Load:** The actual weight of the structure plus any required provision for future surfacing shall be included.

**Live Load:** Truck loadings of the type known as H or type H-S are specified. Each of these types has a specified equivalent lane loading. For continuous structures, live load moments and shears must be investigated for both truck wheels and equivalent lane loads, and that loading producing maximum values is to be used. In the use of the lane loading for continuous structures, an additional concentrated load is specified.

**Impact Loads:** Allowance for impact is provided as a fraction of the live load determined by the formula,

$$I = \frac{50}{L + 125}, \text{ in which } L \text{ is the length}$$

of the shortest span under consideration for continuous spans.

**Temperature:** Temperature ranges are specified for steel and concrete structures according to whether they are located in moderate or cold climate.

**Earth Pressure:** Rankine's formula for active earth pressure is specified, with 30 pounds equivalent fluid pressure as a minimum, and a live load surcharge equivalent to two feet of earth is required.

**Shrinkage:** The usual value of shrinkage of Portland cement concrete during hydration is comparable in effect to a drop in temperature of about 30 degrees, and is specified as .0002 times the span length.

While these specifications do not require consideration of unbalanced earth pressures against the end walls, it is known that active earth pressures are not dependably consistent. The ideal case in which active earth pressures are equal and opposite at the two end walls will not be likely to occur continuously. It is general practice to include earth pressure in combination with other loads only when its effect is to increase the design moments and forces. Consistent with this practice, it should be assumed that the active earth pressure may be effective at one end only if this condition produces an increase in design values.

A reasonable allowance should be made for settlement of supports and spread of footings. Values of movement magnitudes should be consistent with the type of foundation material and loadings used. The American Railway Engineering As-

sociation specification for concrete rigid frames recommends that the structure be investigated for possible spread of footings from zero to one-half inch. This requirement might be used as a guide to a reasonable value of spread for the structure under consideration. This specification provides further that when such values are included in the computations, the unit stresses may be increased by one-third.

The A. A. S. H. O. specification provides for an increase in unit stresses of twenty-five per cent when shrinkage and temperature forces are included with the other design forces, provided that reduction does not reduce the requirement set by the other forces.

## Theory of the Two-Span Rigid Frame Analysis

Figure 5 (a) is a line diagram showing a general case in which a load  $P$  is placed anywhere on a two span rigid frame. The rigid frame as shown is symmetrical about the central support and is hinged at all supports. It is not necessary that the hinge point of the center support be on the line connecting the end hinges. There are, in the general case, six unknown reactions as shown in the diagram.

The static equations,  $\sum H = 0$ ,  $\sum V = 0$ , and  $\sum M = 0$ , are applicable and provide three of the six equations necessary for the solution. In addition to the static equations, three elastic equations will provide for a complete solution. The elastic equations may be expressed as follows:

$$1) \sum \frac{My}{EI} ds = \text{change in span length from A to D}$$

$$2) \sum \frac{My}{EI} ds = \text{change in span length from A to F}$$

$$3) \sum \frac{Mx}{L EI} ds + \sum \frac{Mx}{F EI} ds = \text{or, the slope of the tangent to the elastic curve at end C is common to members CB and CE. (Note that points A and F are origins for the parts of the integration.)}$$

In these equations,  $M$  is the bending moment acting on a  $ds$  length of the member,  $E$  is the modulus of elasticity of the material in the frame,  $I$  is the moment of inertia of the member at the  $ds$  length,  $y$  is a vertical ordinate from the line connecting the supports to the center of the  $ds$  length, and  $x$  is a horizontal distance from A or F to the  $ds$  element. When point D is not on a line connecting A and F, points along the horizontal spans will have two values of  $y$ . One value of  $y$  will be measured from the line connecting A and D and the other value of  $y$  will be from the line connecting A and F. The first will be used in summations between A and D and the second in summations between A and F.

When the footings are considered to be immovable, and the value of  $E$  is constant throughout the frame, these equations may be simplified as follows:

$$1) \sum \frac{My}{I} ds = 0$$

$$2) \sum_a^c M_y \frac{ds}{l} = 0$$

$$3) \sum_a^c M_x \frac{ds}{l} + \sum_r^c M_x \frac{ds}{l} =$$

0 (For symmetrical case)

In the application of the elastic equations, the following definitions need to be considered. A summation of elastic relations between points A and D will include members AB, BC, and CD, and a summation between points A and F will include members AB, BC, CE, and EF. The value of M in the integrations is composed of four parts, that is,

$$M = M' + H_F y + H_D y + \frac{V_D x}{2}$$

$M'$  = the moment due to load P on the span  $2L_a$  with H-forces and  $V_D = 0$ , as shown in Figure 5(b). Point D is free to move vertically and points A and F are free to move horizontally. (Case I).

$H_F y$  = the moment due to Force  $H_F$  required to maintain span  $2L_a$  unchanging, as shown in Figure 5(c). No vertical reactions result and point D is free to move. (Case II).

$H_D y$  = the moment due to force  $H_D$  required to maintain span  $AD = L_a$  as shown in Figure 5(d). Point F is free to move vertically or horizontally. (Case III).

$\frac{V_D x}{2}$  = the moment due to the vertical reaction at point D, with points A and F free to move horizontally, as shown in Figure 5(e). (Case IV).

Figure 5(f) shows the combination of Cases I to IV, which obviously include all of the forces possible to act on the frame. The forces shown in Figure 5(f) include the following combinations from Cases I to IV,

$$H_A = H_F + H_D, \text{ Case II + Case III}$$

$$P_b = \frac{V_D}{2L_a}, \text{ Case I + Case IV}$$

$$H_D = \text{Case III}$$

$$V_D = \text{Case IV}$$

$$H_F = \text{Case II}$$

$$V_F = \frac{P_a}{2L_a} - \frac{V_D}{2}, \text{ Case I + Case IV}$$

Vertical reactions are considered as positive when acting upward. Horizontal reactions are considered positive when producing positive moment; these reactions are shown in a negative direction in Cases II, III, and V.

The elastic equations may now be expanded to include all parts of the bending moment effects for the case of immovable supports and symmetrical frame.

$$1) \sum_a^c M_y \frac{ds}{l} = \sum_a^c M'_y \frac{ds}{l} + \sum_a^c (H_F y) \frac{ds}{l} + \sum_a^c (H_D y) \frac{ds}{l} + \sum_a^c \frac{(-V_D x)}{2} y \frac{ds}{l} = 0$$

$$2) \sum_a^c M_y \frac{ds}{l} = \sum_a^c M'_y \frac{ds}{l} + \sum_a^c (H_F y) \frac{ds}{l} + \sum_a^c (E_D y) \frac{ds}{l} + \sum_a^c \frac{(-V_D x)}{2} y \frac{d}{l} = 0$$

$$3) \sum_a^c M_x \frac{ds}{l} + \sum_r^c M_x \frac{ds}{l} = \sum_a^c M'_x \frac{ds}{l} +$$

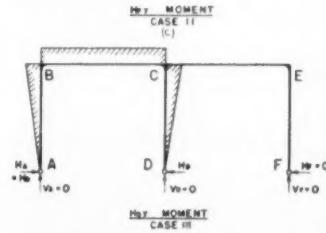
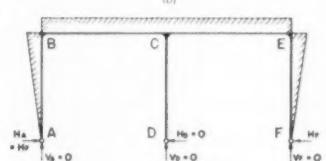
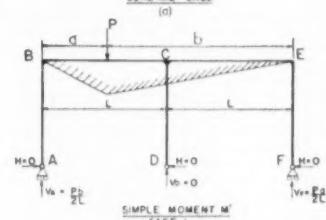
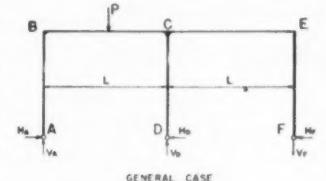
$$\begin{aligned} \sum_a^c M'_x \frac{ds}{l} + \sum_a^c (H_F y) \frac{ds}{l} + \sum_a^c (H_D y) \frac{ds}{l} + \\ \sum_a^c (H_D y) \frac{ds}{l} + \sum_a^c \frac{(-V_D x)}{2} x \frac{ds}{l} + \\ \sum_a^c \frac{(-V_D x)}{2} x \frac{ds}{l} = 0 \end{aligned}$$

A special case of symmetrical loading, such as for the dead load, requires the use of only two elastic equations for the solution of the reactions  $H_A$  and  $V_D$ , because  $H_D = 0$ ,  $H_A = H_F$ , and  $V_A = V_F$ . The equations to be used are (1) and (3), which simplify as follows:

$$1) \sum_a^c M_y \frac{ds}{l} = \sum_a^c M'_y \frac{ds}{l} + \sum_a^c (H_A y) \frac{ds}{l} + \sum_a^c \frac{(-V_D x)}{2} y \frac{ds}{l} = 0$$

$$2) \sum_a^c M_x \frac{ds}{l} = \sum_a^c M'_x \frac{ds}{l} + \sum_a^c (H_A y) \frac{ds}{l} + \sum_a^c \frac{(-V_D x)}{2} x \frac{ds}{l} = 0$$

For this special case the reaction  $V_A$  is equal to the simple beam reaction for span AF minus  $\frac{2}{V_D}$ .



### Influence Lines for Moments and Reactions

An influence line is generally defined as a line having ordinates at all points equal to the effect of a one pound load at each such point on some one common point. An influence line may be drawn for bending moment at a particular point. The amount of the moment at this point may be determined by measuring the ordinate to the influence line under the load and multiplying the ordinate by the load. Any one influence line serves to provide one type of effect at one point only.

In the development of influence lines, full advantage should be taken of Maxwell's Law of Reciprocal Displacements to reduce the amount of labor in computation. Maxwell's Law states that if a unit load placed at point A will produce a moment  $m$  at point B, then the unit load placed at point B will produce an equal moment  $m$  at point A; also, if a unit displacement  $d$  at point B, then a unit displacement  $d$  at point A will produce the same displacement  $d$  at point B. Mohler Breslau is credited with first using the deflection curve as an influence line. It is obvious from Maxwell's Law that, if a reaction point is moved a unit distance, the deflection curve caused by this deformation is the influence line for reaction at the dis-

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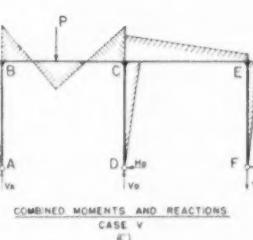
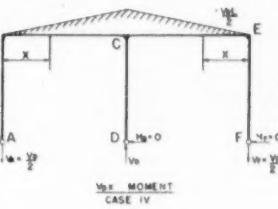


Figure 5 — Relation of Reactions and Bending Moments.

## Rural Roads Called Highway "Stepchild"

America's more than 2,333,000 miles of local rural roads, "long the poor stepchildren in the highway family," are fast gaining attention as a critical national problem, says the American Road Builders' Association.

Habit of the past of ignoring needs of roads not on a Federal aid or state trunk highway system until the principal traffic arteries could be brought up to standard has brought deficiencies on the rural road network totalling more than \$7,000,000,000, B. F. Ostergren, manager of the County Division of American Road Builders' Association, told the recent annual meeting of the National Rural Letter Carriers' Association. With necessary maintenance, administration and engineering costs added, a ten-year corrective program would cost more than \$1,250,000,000, he added.

"Since development of highways began in the nation early in the first half of the present Century of the Motor Vehicle, priority has been given to de-

velopment of a network of highways linking the cities of the nation, large and small," Mr. Ostergren declared. "Each time the local road problem arose, the spectre was dispelled, or so we thought, with promises that as soon as the main arteries were adequate to our transportation needs, work would be started on the local road system.

"Instead of getting better, however, the nation's principal highways are getting worse. It became apparent, finally, that continued neglect of these local roads would be pure folly. But we now face a situation where 1,200,000 miles of local roads are in need of improvement and the average cost per mile for such work is in the neighborhood of \$6,000."

Action is pending in the Senate on the Federal Aid Highway Bill which boosts the amount of money available for improvement of secondary highways in the nation, the ARBA official told the Letter Carriers. The bill is the first concrete indication by Congress that it recognizes

that the material hauled over local rural roads is the foundation upon which the nation's economy rests and survives.

Letter carriers on 32,600 rural mail routes, travelling approximately 1,500,000 miles daily, do 71 per cent of their delivery work on local rural roads, Mr. Ostergren pointed out, adding:

"To the farmer, the school bus driver and the rural mail carrier, the most important piece of road is the one over which he cannot travel during portions of the year. A main highway system is of no value unless we have a road upon which we can reach that system."

## Winters Named Chief Of Asphalt Engineers

Walter F. Winters has been named chief engineer of the Asphalt Institute, according to an announcement by Bernard E. Gray, who up to now has served as both president and chief engineer.

Formerly special projects engineer at the Institute's Denver office, Mr. Winters will direct an expanding national staff in promoting the use of asphalt for roads, streets and airfields and also in developing research in these and other fields.

Mr. Winters' training includes an engineering course at Washington State College, supplementary courses at the University of Virginia and Northwestern University and a career covering nineteen years of experience in Washington and six years in the military service from which he returned with rank of colonel.

## Night Light Systems

Night-work lighting systems for construction equipment are described in a report issued by the Office of Technical Services of the U. S. Department of Commerce.

Prepared by the Army Corps of Engineers, the report deals with experimental work which is said to have made possible construction operations at 85 per cent of normal daytime rate. Lighting systems, powered from the vehicle's regular generator, or from additional generating units provided, were placed on various mobile construction devices.

Advantages of placing lighting equipment directly on construction units, rather than using area floodlighting, are said to include high intensity illumination on the work plane; elimination of shadows from the operator's position; ability to adjust lighting fixtures as needed; ability to operate individual equipment independent of general illumination; and elimination of dependence on heavy, cumbersome fixed lighting facilities.

Equipment developed in the tests is based almost entirely on standard commercial or military components, and is estimated to cost from \$5 to \$300 per vehicle, the average being somewhat above \$200.

Order PB 99480, *First Interim Report—Night-Work Lighting Systems for Construction Equipment*, 142 pages, is \$3.75 per copy.

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placed point in the direction of the displacement.

If a scale model is made of some elastic material, influence lines for reactions can be drawn quite successfully. The model may be made from an elastic material such as celluloid, pyralin or bakelite, or even from a good grade of cardboard for small ordinates. The accuracy of the lines will, of course, depend on the elasticity of the material. The model should have linear dimensions corresponding to the dimensions of the frame to any convenient scale and should have cross sectional areas giving the same relation between moments of inertia at all points as exist in the frame. For a flat material, the depth of the section at any point in the model will be  $d$  when  $\frac{I}{I_0} = K$ . The values

$d^4$

of  $I$  correspond to the moment of inertia of the prototype, and  $K$  is a convenient constant for all points in the model. Figure 6, Mechanical Development of Influence Lines, indicates how the influence line for the horizontal reaction at point F might be drawn by use of a scale model.

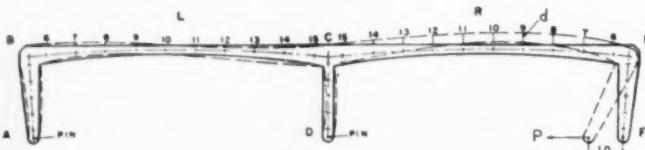
As shown in Figure 6, points A and D of the model are pinned to the table to permit rotation without displacement. With a pin placed through point F, when

F is in the position without deformation, a pencil line may be drawn along the top of the model as a base line. Point F is then moved one unit (to any scale) horizontally. A new line is then drawn along the top of the model. The ordinates to the influence line for the horizontal reaction at F are now the ordinates between the original and the strained positions of the top of the model. Somewhat more satisfactory results may be obtained by use of pin holes at the working points of the frame along its axis in which case marks may be made through the pin holes in the two positions of the model and the points connected for an influence diagram. That the vertical ordinates do represent influence ordinates for the reaction at F follows directly from Maxwell's Law. That is, if a load  $P$  at F produces a deformation  $d$  at point 9 and a unit deformation at point F, a load  $P$  at point 9 will produce deformation  $d$  at point F. With the load  $P$  at point 9, the force necessary to return F to the undeformed position is  $\frac{d}{10}$  times  $P$ , hence the

reaction preventing movement of point F is  $dP$  when the load  $P$  is at point 9.

Similar influence lines may be developed for the vertical reactions and for the horizontal reaction at point D.

Figure 6—Mechanical Development of Influence Lines.



# Southern Construction Projects

**TEXAS, LOUISIANA, MISSISSIPPI**—United Gas Pipe Lines Co., Shreveport, La., plans 1,130 miles of pipelines, \$10,000,000.

## ALABAMA

**AUBURN**—Lee County Board of Education, Opelika, received low bid from A. Berney Jones, Monroe St., Montgomery, \$217,193 for gymnasium and high school.

**BIRMINGHAM**—B. F. Goodrich Co. received low bid from J. F. Holley, \$65,140 for store and service station.

**BIRMINGHAM**—State Highway Department, Montgomery, received low bid from W. C. Howton, \$364,550, for underpass under Louisiana and Nashville Railroad tracks on 60th Ave.

**BIRMINGHAM**—Howard Hall Co. let contract to Day and Richardson, \$50,000 for office and shop building.

**BIRMINGHAM**—City Board of Education let contract to Sullivan, Long and Hagerly, \$118,500 for Belvoir Heights School.

**BIRMINGHAM**—Pan-Am Southern Corp., Gulf, Atlantic & Pure Oil Co. plans pipeline terminal, \$300,000.

**BIRMINGHAM**—Temple Beth El let contract to G. A. Paul, \$163,962 for educational bldg., \$100,000.

**BIRMINGHAM**—Woodward Iron Co. plans \$4,500,000 blast furnace for production of pig iron.

**BUTLER**—Contract has been let to J. A. Utley Co., Detroit, Mich., for \$40,000,000 newspaper and kraft paper board mill near Butler.

**CAMDEN**—Corps of Engineers, Mobile, plans navigation lock, dam and spillway and hydroelectric powerhouse for Jones Bluff Lock and Dam, \$36,399,000.

**COLUMBIA**—Peoples Telephone Co. plans \$360,000 for new and improved telephone service.

**COLUMBIA**—Corps of Engineers, Mobile, plans navigation lock, dam and spillway and powerhouse, for Upper Columbia Lock and Dam, part of planned development on Apalachicola, Chattahoochee and Flint River systems, \$75,000,000.

**DOTHAN**—George Y. Malone received low bid from Chapman Construction Co., \$49,530 for store and office bldg.

**FLORENCE**—City plans City Hall, \$476,775.

**FOLEY**—Baldwin Oil Mills, Inc., plans \$300,000 plant to process soybeans.

**HUNTSVILLE**—City received low bid from P. L. Buchanan Contracting Co., \$1,038,173 for natural gas distribution system and transmission main.

**MOBILE**—Hollingsworth & Whitney Co. plans expansion of paper and pulp plant in Magazine Point Area, \$8,500,000.

**MONTGOMERY**—Corps of Engineers, Mobile, plans navigation lock, dam and spillway and hydroelectric powerhouse, for Howell Mill, Coosa Dams on Coosa River, \$28,641,000.

**MONTGOMERY**—State Highway Department received low bids for projects in following counties:

**Chilton**—6.57 mi. base and double surf treat. on Clanton-Lay Dam Rd.; Floyd S. Milford, Birmingham, \$64,123.

**Colbert**—6.141 mi. grad., drain, and double surf. treat.; A. L. Crow Construction Co., Birmingham, \$98,715.

**Tallapoosa**—9.231 mi. base and single surf. treat.; Hugh Steele Construction Co., Centre, \$81,655.

**Marengo**—8.515 mi. asph. liquid seal; Halger Construction Co.;

**Crenshaw**—8,855 mi. base and single surf. treat.; Joe F. Walters, Troy, \$39,388.

**Lee**—13.369 mi. base and double surf. treat.; Hugh Steele Construction Co., Centre, \$88,715.

**Franklin**—5,054 mi. base and double surf. treat.; A. L. Crow Construction Co., Birmingham, \$36,275.

**Houston**—7,571 mi. grad., drain, and single surf. treat.; Joe F. Walters, Troy, \$105,654.

**Shelby**—8,021 mi. base and single surf. treat.; Hugh Steele Construction Co., Centre, \$41,549.

**Walker**—3,510 mi. grad., drain, and double surf. treat.; Floyd S. Milford, Birmingham, \$53,275.

**Dale**—12,005 mi. base and single surf. treat.; B. F. Williams Construction Co., Ozark, \$48,600.

**Hale**—5,549 mi. base, single surf. treat. and plant mix; Vandigriff Construction Co., \$43,450.

**Marengo**—434 mi. bridge and approaches at Chickasaw Bogue Creek; Baird & Latimer, Selma, \$150,905.

**Walker**—0.03 mi. overpass on Jasper-Birmingham Rd.; Montgomery Construction Co., \$63,420.

**Baldwin**—908 mi. bridges and approaches

on Atmore-Bay Minette Rd.; Laidlaw Contracting Co., Mobile, \$121,982.

**Escambia**—217 mi. bridge and approaches at Brushy Creek; Laidlaw Contracting Co., \$38,810.

**OPELINKA**—Lee County Hospital Association received low bid from Batson-Cook Co., West Point, Ga., \$108,954 for hospital.

**OPELINKA**—Ragland Brothers Co. let contract to Batson-Cook Co., West Point, Ga., \$99,385 for warehouse.

## ARKANSAS

**BLYTHEVILLE**—City plans rehabilitation of drainage system, Mississippi County Drainage District No. 13, \$303,000.

**CLARKSVILLE**—Sam Ellwood Co., Russellville is low bidder at \$83,911, for Horsehead Creek Dam project.

**DeQUEEN**—DeQueen Methodist Church let contract to Woodrow White, \$54,890 for educational bldg.

**LITTLE ROCK**—University of Arkansas plans medical center, \$6,000,000.

**LITTLE ROCK**—State Highway Department issued work order for project in following county:

**Randolph**—Concrete and steel I-beam bridge over C. C. Creek; W. E. Atkinson Paving Co., Chillicothe, Mo., \$93,175.

**LITTLE ROCK**—Southwest Hotels, Inc., Hotel, let contract to Dittmar-Dickmann-Pickens for automobile parking bldg., \$50,000.

**LITTLE ROCK**—Safeway Stores, Inc., Oklahoma City, Okla., let contract to Tri-State Construction Co., Hall Bldg., for 2 stories, \$1,300,000.

**LITTLE ROCK**—State Welfare Commission let contract to Linebarger Construction Co., \$553,665 for seven-story Arkansas State Welfare Department and Employment Security Division building.

**MALVERN**—First Baptist Church received low bid from Sanford Hill Co., \$114,000 for addition.

**MONTICELLO**—B. V. MacDougall plans theatre, \$54,000.

**NORTH LITTLE ROCK**—Mayflower Dairy Co. plans \$100,000 expansion program.

**SILOAM SPRINGS**—Siloam Springs Industrial Foundation will construct \$100,000 factory to be leased to Bear Brand Hosiery Co.

## DISTRICT OF COLUMBIA

**ANACOSTIA**—Department of Defense seeking funds for new buildings approved by Atomic Energy Commission to house radioisotope generator, Naval Research Laboratory, \$1,390,000.

**WASHINGTON**—District Commissioners let contract \$7,191,000 400-bed addition at Glen Dunn Tuberculosis Sanitorium.

**WASHINGTON**—Corps of Engineers let contract to H. C. Passett, \$40,573 for rehabilitation of barracks buildings.

**WASHINGTON**—District Commissioners received low bid from Corson & Greman, \$129,397 for widening and paving roadway.

**WASHINGTON**—House Commerce Committee approved a bill authorizing a second Federal financed airport in Washington area, \$14,000,000.

**WASHINGTON**—District Commissioners authorized the expenditure of \$70,000 to repair elephant house at Zoo.

## FLORIDA

**APOPKA**—Orange County Board of Public Instruction plans Apopka Junior Elementary Colored School, \$220,000.

**BAY HARBOR ISLAND**—Maurice G. Spero, Bay Harbor, let contract to Nolan M. Raby, Miami Beach, for 2 apartment bldgs., \$200,000.

**CHATTAHOOCHEE**—Florida State Improvement Commission, Tallahassee, contemplates psychiatric building, \$650,000.

**CHIPLEY**—Board of Trustees received low bid from Moseley Collins, Jr., Tallahassee, \$187,400 for Washington County Hospital.

**COCOA**—Corps of Engineers, Jacksonville, received apparent low bid from Duval Engineering and Construction Co., \$254,929 for 9 miles of access roads at Long Range Proving Ground.

**COCOA**—Corps of Engineers, Jacksonville, let contract to Armour Contractors, Mobile, Ala., \$302,843 for renovation and reconstruction of 8 buildings, Joint Long Range Proving Ground.

**DADE COUNTY**—Ben Sam Corp. let contract to Momar Construction Co., Miami, for 45 residences, \$284,618.

**DADE COUNTY**—John H. McGahey, Jr., Miami, will construct 13 residences, \$101,400.

**DADE COUNTY**—O. M. Carrier Construction Co., Miami, plans 22 residences, \$147,400.

**DADE COUNTY**—Coral Way Corp., Inc., Miami, let contract to Bobart Construction

Co., Inc., Coral Gables, for 24 residences, \$162,444.

**DADE COUNTY**—N. Seven, Inc., Miami, let contract to Nichols Construction Co., Miami, for 100 residences, \$692,988.

**DADE COUNTY**—Garden Construction Co., Miami, will construct 41 residences, \$306,079.

**DADE COUNTY**—Charon, Inc., let contract to George Winston Construction Co., Miami Beach, for hotel and Nassau apartment bldgs., \$150,000.

**DADE COUNTY**—Lido, Inc., let contract to George Winston Construction Co., Miami Beach, for hotel and restaurant, \$150,000.

**DADE COUNTY**—Board of Dade County Commission, Port Authority, Miami, received low bid from Paul Smith Construction Co., Miami, \$157,439 for overpass over Seaboard Airline Railroad yards.

**DADE COUNTY**—J. E. Jarkey, Miami, let contract to Joseph G. Moretti, Inc., Miami, for hotel, \$100,000.

**DATON BEACH**—McFarland Furniture Co. let contract to Security Construction Co., \$161,367 for commercial bldg.

**EGLIN FIELD**—U. S. Army Air Force, Eglin Air Force Base, let contract to G. W. Klosterman, Inc., Pensacola, for 525-unit low cost housing project, \$5,000,000.

**FORT LAUDERDALE**—Russell Luchtman let contract to Leonard L. Bestwick, Miami, for hotel, \$100,000.

**FORT LAUDERDALE**—Frank Smith Construction Co. will construct 18 residences, \$166,000.

**FORT LAUDERDALE**—Fort Lauderdale Hi-Fi Fronton plans Jai Alai fronton, \$350,000.

**FORT LAUDERDALE**—Fellowes Construction Co. has construction underway for Southgate Hotel.

**FORT LAUDERDALE**—Gateway Theatre, Inc., let contract to G. W. Burkard Construction Co., for theatre, \$250,000.

**FORT MYERS**—Jim Reed, Jr., Nashville, Tenn., received low bid from Joe R. Ross, \$171,000 for motor court.

**FORT WALTON**—Town let contract to Tri-State Construction Co., Geneva, Ala., \$127,114 for water system addition.

**HALLANDALE**—Gulfstream Race Track let contract to Calwell-Scott Engineering & Construction Co., Fort Lauderdale, \$366,666 for club house, Gulfstream Race Track.

**HIALEAH**—Superior Home Builders, Inc., will construct 20 residences, \$135,020.

**HIALEAH**—Thomas P. Coogan Co., Miami, will construct 30 residences, \$100,000.

**HIALEAH**—City Water Department received low bid from Joe Reinertson, Miami, \$270,750 for addition to water distribution system.

**HOLLYWOOD**—Pen Wri Corp. let contract to Weller Construction Co. for apartment on N. Broadwalk, \$143,000.

**LAKE ELD**—South Dale Farms, Inc. received low bid from John B. Orr, Inc., \$132,000 for bank.

**JACKSONVILLE**—Florida Supreme Court, Tallahassee, approved \$28,000,000 bond issue to construct express highway and bridge system.

**JACKSONVILLE**—City plans expenditures of \$7,000,000 to build up own water system.

**LAKE ELL**—Greyhound Bus Lines plans clearing and converting site along the waterfront into large terminal and parking area, \$750,000.

**JACKSONVILLE**—State Road Department, Tallahassee, advanced \$200,000 to speed acquisition of right of way for superhighway.

**JACKSONVILLE**—Congress approved aircraft carrier berthing, turning basin and approach channel, Mayport, Naval Air Station, Hollywood Ave., Jacksonville, \$100,997.

**KICK WEST**—Monroe County Commissioners have plans in progress for County Jail, \$100,000.

**LAKE CITY**—City let contracts to the following for sanitary sewerage project: Part 1, main, construction and extension of sewage line, Crenshaw and White, \$126,000; Forsyth St., Jacksonville, \$124,017 and Part 2, extension and modernization of disposal plant and pumping station, J. W. Meadows & Co., 1306 Hollywood Ave., Jacksonville, \$100,997.

**LAKE WALES**—Florida Citrus Canners Cooperative let contract to L. S. Martin \$101,000 for building.

**MIAMI**—City Commission received low bid from Powell Brothers, Inc., Ft. Lauderdale, \$173,390 on Item 1, \$155,910 on Item 2 and \$208,362 on Item 3 for piers for Dinner Key Marina Improvement.

**MIAMI**—Board of County Commissioners of Dade County let contract to Paul Smith Construction Co., \$157,459, for overpass over Seaboard Airline Railroad yards in Dade County.

**MIAMI**—George R. Dobbs plans business

(Continued on page 16)

# Southern Construction Projects

## FLORIDA

(Continued from page 15)

development, \$1,000,000.

**MIAMI**—First National Property let contract to C. A. Kahn & Expert, Inc., Miami Beach, for store, \$125,000.

**MIAMI**—Richards Department Store received low bid from Caldwell-Scott Engineering & Construction Co., Inc., Ft. Lauderdale \$1,069,981 for department store addition & alterations.

**MIAMI**—Corps of Engineers, Savannah, Ga., let contract to C. F. Wheeler, \$163,013 for U. S. Army.

**MIAMI**—Seaboard Airline Railway Co., Norfolk, Va., let contract to M. R. Harrison Construction Corp., \$1,126,000 for railway shops and yard, permit issued.

**MIAMI**—Bay Side Building Corp., let contract to Witters Construction Co., Hialeah, for apartment, \$117,742.

**MIAMI**—Tropiczone Homes, Inc., let contract to Mutual Construction Co., for 4 apartments, \$126,000.

**NORTH MIAMI**—N-Twelve, Inc., let contract to Nichols Construction Co., for store, \$193,090.

**NORTH MIAMI**—El Prado Homes, Inc., Miami, will construct 15 residences, \$153,450.

**NORTH MIAMI**—El Prado Homes, Inc., Miami, will construct 13 residences, \$17,000.

**NORTH MIAMI BEACH**—City plans improvements, 3 reinf. Conc. bridges and subsurface drainage, \$673,680.

**ORLANDO**—Orange County Board of Public Instruction let contract to W. A. McCree, \$111,390 for Lockhart Elementary School.

**ORLANDO**—Orange County Board of Public Instruction let contract to J. H. Mann Construction Co., \$288,400 for Holden S. Elementary School.

**PENSACOLA**—Baptist Hospital has plans in progress for Crippled Children's Hospital, \$160,000.

**RIVER JUNCTION**—Gulf Power Co., Pensacola, plans generating plant, \$4,000,000.

**ST. PETERSBURG**—Florida Power Corp. plans to spend \$60,000,000 in next 4½ years to complete its \$96,000,000 construction program.

**SURFSIDE**—Surf Club Corp. let contract to S. Upson Jones & W. J. Nixon, Miami Beach, for apartment, \$459,000.

**SURFSIDE**—Codade Corp. received the following low bids for hotel on Collins Ave.: George-Taylor Construction Co., Miami, \$630,000; Electrical equipment—Bauer & Wronker Electric, Miami, \$22,990; Air Conditioning—Harry C. Higgins, Inc., Miami, \$67,500.

**TALLAHASSEE**—City let contract to W. L. Coston & Son, Birmingham, Ala., \$508,672 for transmission lines.

**TALLAHASSEE**—City let contract to Harrison-Wright Co., Charlotte, N. C., \$192,332 for electrical distribution system.

**TALLAHASSEE**—State Tuberculosis Board let contract to W. F. McCullough Construction Co., \$32,826 for laundry building, first unit of new \$2,800,000 TB hospital.

**TALLAHASSEE**—City received low bid from Harrison-Wright Co., Charlotte, N. C., \$192,332 for electrical distribution system.

**TAMPA**—Florida State Tuberculosis Board, Tallahassee, received equipment low bid from Thomas H. Radford Construction Co., Live Oak \$433,897 for first units of new tuberculosis hospital at Drew Field, entire project, \$4,500,000.

**TAMPA**—City received low bids for sewers and force mains from the following: Division B-5, Stansfield Construction Co., Inc., 2401 Horatio St., \$303,954; Division B-6, A. Stanley Mundy & Co., Inc., \$280,703 & Division B-7 \$90,971; Division B-8, Higgins, Inc., P. O. Box 2509 Sarasota \$128,858; Division B-9, Stansfield Construction Co., Inc., 2401 Horatio St., \$55,518; Division C-5, Cone Brothers Contracting Co., Caesar Ave. & Cumberland St., \$118,148; Division F-3, A. Stanley Mundy & Co., Norfolk, Va., \$106,160; Division G-4, J. B. Owens, 3900 E. Broadway Ave., \$23,215.

**TAMPA**—City received low bids for sewer disposal and sewer improvements from the following: Division E-6, Ellington Construction Co., \$77,634; Division E-7, Higgins, Inc., P. O. Box 2509, Sarasota \$105,657; Division E-8, Stansfield Construction Co., Inc., 2401 Horatio St., \$321,946; Division E-9, Mariam-O'Brien, P. O. Box 1369, St. Petersburg, \$204,157; Division F-10, J. B. Owens, 3900 E. Broadway Ave., \$118,316 & Division E-11, Mariam-O'Brien, P. O. Box 1369, St. Petersburg, \$316,414.

**TAMPA**—State Tuberculosis Board, Talla-

hassee, let contract to Thomas H. Radford Co., Live Oak, \$438,897 for housing for employees and physicians at proposed tuberculosis hospital.

**TITUSVILLE**—Corps of Engineers, Jacksonville, let contract to Duvall Engineering & Construction Co., Jacksonville \$254,929, for roads in launching area, Cap. Canaveral.

**WINTER HAVEN**—First Methodist Church let contract to L. F. Martin, Lake Wales, for church, \$294,000.

## GEORGIA

**ALBANY**—First Baptist Church let contract to S. J. Curry, & Co., \$81,417 for church educational bldg.

**ATHENS**—University System Building Authority, Atlanta, received low bid from Virginia Engineering Co., Newport News, Va., \$1,453,000 for Ian Dunlap Little Memorial Library, University of Georgia.

**ATLANTA**—Standard Oil Co. received low bid from Wesley & Co., \$308,477 for warehouse.

**ATLANTA**—Retail Credit Co. received low bid from Capital Construction Co., \$243,525 for printing plant and supply division.

**ATLANTA**—University System Building Authority received low bid from J. A. Construction Co., \$1,014,863 for architecture buildings at Georgia Tech. University.

**ATLANTA**—Cason Lodge, let contract to Hardin, Trans. for bridge bid, \$84,935.

**ATLANTA**—Second Poule de Leon Baptist Church received low bid from J. A. Jones Construction Co., \$429,720 for chapel & religious education bldg.

**ATLANTA**—Georgia Highway Express Inc., let contract to Southeastern Construction, \$280,975 for motor freight terminal.

**ATLANTA**—Georgia Theatre Supply Co. received low bid from V. W. Winkle & Co., and warehouse, \$82,991.

**ATLANTA**—Morningside Baptist Church let contract to Wey-Leonard Construction Co., for church, \$320,000.

**ATLANTA**—State Highway Department let contracts for projects in following counties:

**Appling**—6 mi. grad., drain. and pavt.: John Monaghan Inc., Felham, \$126,335.

**Baldwin**—3 ½ mi. pavt. on Milledgeville Power Co. Dam Rd.; Harry Brown, Milledgeville, \$135,411.

**Bullock and Ellington**—9.6 mi. pavt. N. Stilson-Guyton Rd.; J. G. Attaway Construction Co., Statesboro, \$159,541.

**Crisp**—1.5 mi. pavt. and 1 bridge on Ashburn Vienna Rd.; W. L. Florence Construction Co., Powder Springs, \$280,616.

**Jackson**—2.7 mi. pavt. and 1 bridge on Jefferson-Nicholson Rd., R. A. G. Wimpy, Dahlonega, \$94,673.

**Macon**—4 mi. pavt. on Montezuma-Perry Rd.; Acme Construction Corp., Cochran, \$36,601.

**Monroe**—6.2 mi. pavt. on Forsyth-Dames Acme Construction Co., \$113,533.

**Oglethorpe**—6.6 mi. pavt. on Lexington-Comer Rd., M. R. Woodall, Atlanta, \$106,053.

**Peach and Crawford**—6.8 mi. pavt. on Ft. Valley-Reynolds Rd., Coffee Construction Co., Eastman, \$140,728.

**Polk and Haralson**—5.6 mi. pavt. on Cedar-ton-Bowden Rd.; J. W. Florence Construction Co., \$104,944.

**Schley**—5.9 mi. pavt. on Ellaville-Preston Rd., Coffee Construction Co., \$40,954.

**Terrill**—5.4 mi. pavt. on Dawson-Morgan Rd., Coffee Construction Co., \$74,954.

**Towns**—3.5 mi. pavt. on Hiawassee-Hayesville, N. C. Rd., C. M. Lyle Construction Co., Gainesville, \$49,723.

**Union**—8.4 mi. pavt. and 1 bridge on Blackshear-Murphy Rd.; R. D. Lothrop-Bethel and Gentry and Thompson, Gainesville and Atlanta, \$317,008.

**Wilcox**—5.6 mi. pavt. on Rochelle-Fitzgerald Rd., Crumney & Crumney, Rochelle, \$49,693.

**Wilkes**—7.3 mi. pavt. and bridge on Greensboro-Washington Rd., M. R. Woodall, Inc., Atlanta, \$166,410.

**ATLANTA**—State Highway Department let contracts for projects in following counties:

**Atkinson and Coffee**—4 bridges and 4 culverts on Willacoochee-Douglas Rd., G. L. Strickler, Austell, \$124,120.

**Upson**—Bridge on Thomaston-Woodland Rd., Scott Construction Co., Thomaston, \$4,229.

**Wayne**—Bridge on Baxley-Jesup Rd., Scott Construction Co., \$66,047.

**AUGUSTA**—D. M. Widener plans low-rent housing project in Wilginson Gardens, \$300,000.

**AUGUSTA**—E. R. Davis Colonial Stores Co., Lessee, plans super shopping center, \$80,000.

**AUGUSTA**—Sisters of St. Joseph of Carondelet, Augusta, Province, received low bid from Ray & Lee Co., Atlanta, \$1,357,132, for St. Joseph's Hospital.

**Brunswick**—Brunswick Pulp and Paper Co. announced plans for expenditure of \$5,331,000 for expansion and improvement program for its bleached wood pulp producing facilities.

**Brunswick**—Port Authority plans major dock development seaward of new Turtle River bridge, \$2,000,000.

**CARROLLTON**—University System Building Authority, Atlanta, received low bid from Jones & Hardy, Montevallo, Ala., \$212,563 for dormitory for men, West Georgia College.

**CORBRAN**—Middle Georgia College received low bid from C. C. Samford & Son, Jacksonville, Fla., \$129,983 for boy's dormitory.

**COLLEGEBORO**—University System Building Authority, Atlanta, received low bid from Coite-Somers Co., Vidalia, \$294,000 for laboratory school at Georgia Teachers College.

**COLUMBUS**—City Commissioners let contract to Williams Construction Co., \$80,000 for public works shops.

**Scottish Rite Temple** received low bid from J. P. Bradford, \$47,534 for alterations & additions to temple.

**COLUMBUS**—Schwob Manufacturing Co. let contract to J. P. Bradford, \$47,571 for alterations and addition to building.

**COLUMBUS**—Muscogee County sold \$425,000 bond issue to Trust Company of Georgia for school construction.

**DAHLONEGA**—University System Building Authority, Atlanta, received low bid from Bailey-Bell Construction Co., Greenville, S. C., \$427,623, for North Georgia College Dormitory.

**DECATUR**—City Board of Education plans improvements to high school stadium, \$75,000.

**DECATUR**—City Board of Education plans addition to high school gymnasium-auditorium, \$229,000.

**DECATUR**—City Board of Education plans 12-class-room elementary school, \$165,000.

**DECATUR**—City Board of Education plans four classroom addition to Herring St. School with cafeteria and clinic, \$70,000.

**DOUGLAS**—University System Building Authority, Atlanta, received low bid from John V. Smith & Co., Hazelhurst, \$202,000 for girl's dormitory, South Georgia College.

**DOUGLAS**—Douglas Hospital Authority plans to call for bids about December 1, for 66-bed hospital, \$750,000.

**EASTMAN**—Ocmulgee Electric Membership Corp. received low bid from Ed L. Powers Contracting Co., Jesup, \$66,870 for headquarters bldg.

**EATONTON**—Putnam County Board of Education received low bid from A. B. Newton, Vienna, \$182,500 for school.

**EMORY UNIVERSITY**—Emory University received low bid from Christian and Bell, Atlanta, \$283,354 for dormitory.

**FOOT VALLEY**—Foot Valley State College for negroes and Savannah State College has plans being drawn for \$425,000 dormitories.

**FULTON COUNTY**—Baudoro, Inc. let contract to Maynard Johnston & Co., \$117,483 for street.

**FULTON COUNTY**—Fulton County Board of Education let contract to D. C. Fowler & Co., Atlanta, \$145,674 for Chattahoochee Valley Elementary School.

**GRiffin**—Griffin-Spalding County Hospital Authority received low bid from Ivey Brothers Construction Co., Atlanta, \$175,000 for Health Center.

**HAROLD HILL**—George R. Munn, Atlanta, received contract at \$63,900 for Georgia Memorial Hall bldg.

**HARRIS COUNTY**—Cason J. Callaway & Callaway Foundation plan Callaway Arboretum & Lake development, \$1,000,000.

**LAGRANGE**—City let contract to Sockwell Co., Atlanta, \$106,036 for additions to water distribution plant.

**LINCOLN AND COLUMBUS COUNTIES**—State Highway Department, Atlanta, received low bid from E. H. Hines Construction Co., Greenwood, S. C. and Robert Lee, Inc., Manning, S. C., \$1,411,941, for Hwy. Project SAP-961(3).

**MARIETTA**—Housing Authority plans negro housing project, \$7,000,000.

**McRae**—McRae-Telfair County Hospital Authority received low bid from A. B. Newton, Vidalia, \$276,900 for hospital.

**MILLEDGEVILLE**—State Department of Welfare, Atlanta, let contract to A. R. Briggs Construction Co., Macon, \$613,000 for Psychiatric Hospital.

**NEWNAN**—Georgia Power Co., Atlanta, plan construction of third, 100,000 kilowatt generating unit at Plant Yates, \$10,000,000.

**ROME**—Board of Education received low bid from Johnson and Johnson, \$58,469 for East Rome Colored School & \$60,702 for West Rome Colored School; Charles B. Alexander, Jr., for South Fourth Ward School & North Rome School, combination b.c. of \$64,365.

**ST. MARY'S**—Board of Education, Woodbine, let contract to R. R. McCall Construction Co., Valdosta, \$100,895 for Camden County School.

**SAVANNAH**—State Highway Commission, Atlanta, approved plans for 2 new bridges and repairs to third in Chatham County, \$300,000.

**SUMMERTOWN**—Chattooga County Hospital Authority received low bid from A. C. Samford, Inc., Box 1262, Albany, \$253,918 for County Hospital.

**TOMINTON**—Upson County Electric Membership Corp. received low bid from Perry Lamar Construction Co., \$75,000 for headquarters bldg.

**WATKINSVILLE**—Board of Commissioners of Roads & Revenue of Oconee County received low bid from Paris Construction Co., Athens, \$39,250 for Health Center.

## KENTUCKY

**BRADENBURG**—Mathleson Hydrocarbon Chemical Corp., Baltimore, Md., let contract to E. B. Badger & Sons Co., Boston, Mass., \$10,000,000 chemical plant and 100,000-ton per year work for \$17,000,000 chemical plant at Doe Run.

**FLEMINGSBURG**—Fleming Mason Rural Electric Cooperative Corp. let contract to Killen Co., Appleton, Wisc., \$308,460 for 277.21 miles REA lines.

**FRANKFORT**—Department of Highways let contracts for projects in following counties:

**Clinton**—Hickman cutoff, 3 mi. grade, drain and traffic-bound surf.; Mulligan Brothers, Greenville, \$74,237.

**Jefferson**—Preston St. Rd., 3 mi. grade, drain and batum, surf.; George M. Eady Co., Louisville, \$515,397.

**Pike**—Shebey Gap-Elkhorn City Rd., 5 mi. grade, drain and traf. bound surf.; Talbott-Myers Construction Corp., Winchester, \$150,845.

**Morgan**—Pomp-Lenox Rd., 4 mi. grade, drain and traf. bound surf.; Kentucky Road Oiling Co., Frankfort, \$109,075.

**Bullitt**—Shepherdsville-Louisville Rd., 5 mi.; Henderson Hite Construction Co., Bardstown, \$47,153.

**Crittenden**—Tynor Chapel Rd., 2 mi.; old Ford Ferry Rd., 4 mi. and Piney Creek Church Rd., 2 mi.; Ruby Construction Co., Madisonville, \$95,950.

**Fayette**—Lexington-Newtown Rd., 8 mi. batum, surf. and drain.; Carey Construction Co., Lexington, \$59,086.

**Fulton**—Logeston-School-Crutchfield Rd., 2 mi.; Spur Rd. to Logeston School-Crutchfield Rd. 1 mi. and Jim McNeal Rd., 2 mi.; Corbett, Davidson and R. I. Cocke, Mayfield, \$86,450.

**Harrison**—Leburn-High Mountain Rd., 3.4 mi. grade, drain and traf. bound surf.; R. R. Dawson Bridge Co., Bloomfield, \$151,061.

**Gallatin**—Craigs Creek Rd., 6 mi.; McLean Construction Co., Lexington, \$94,381.

**Jackson**—Sanct Gap Sand Rd., 3 mi.; L. M. Hart Construction Co., Lexington, \$48,032.

**Lake**—Buffalo-White City Rd., 2 mi.; Ky. 61-U, St. 31 E. Rd., 1 mi.; and Ky. 37-Magnolia Rd., 3 mi.; Enlow-Brewer County, Hodgenville, \$62,492.

**Marshall**—Penny Rd. extension 1 mi.; Benton-Oak Level Rd., 8 mi. and Maple Spring Rd., 1 mi.; Mulligan Brothers, \$119,638.

**Montgomery**—Sunny Robinson—Cooks Branch Rd., 2 mi.; Walden & Grubbs, Lancaster, \$38,229.

**Trigg**—Maple Grove Rd., 5 mi.; Robinson & Lashbrook, Owingsboro, \$62,230.

**FRANKFORT**—Department of Highways let contracts for projects in following counties:

**Livingston**—Smithland-Bayou Rd., culvert and approaches at Phillips Creek; Lyons & Breeden, Riversville, \$45,840.

**Bowen**—Morehead-Sandy Hook Rd., reconstr. of bridge at Trintett Creek; Saltzman Construction Co., Bardstown, \$43,736.

**Lincoln**—Knob Lock Rd., bridge and approaches at Harris Creek; Strunk Construction Co., Somerset, \$42,571.

**FRANKFORT**—Department of Highways let contracts for projects in following counties:

**Jackson**—Proj. SP-55-209, 5.132 mi. reconstr. and traf. bound limestone; Ruth & Jones, Bowling Green, \$79,795.

**Breathitt**—Proj. 13-487, 2,668 mi. reconstr. and traf. bound limestone; Marlowe Construction Co., Inc., Lexington, \$41,088.

**FRANKFORT**—State Highway Department let contracts for projects in following counties:



*Above—Empire Construction Co. is proceeding under a \$304,392 project at the proposed Sam Smith Park, the first stage of the Light Street waterfront redevelopment at Baltimore. The triangular area shown in the picture is being filled with dry earth to provide a cut-off roadway connecting Camden Street, a one-way west thoroughfare, with Calvert Street. The clamshell rig in the left foreground is moving muck preliminary to placing the fill. The pier-like projection at the right is the relieving platform. William Doane is superintendent for the contractor, a prominent Baltimore firm.*

**Boyle**—Forkland-Junction City Rd., 4 mi.; Marlowe Construction Co., Lexington, \$80,519.

**Fayette**—Lexington-Chester Rd. underpass, 0.067 mi.; Robert H. King, Danville, \$70,056.

**Franklin**—Frankfort-Georgetown Rd., 0.6 mi.; Kelly Contracting Co., Louisville, \$60,278.

**Letcher**—Colson-Deane Rd., 6 mi.; Marlowe Construction Co., \$238,031.

**Lincoln**—Kings Creek-Whitesburg Rd., 2 mi.; M. T. Codell & Co., Winchester, \$106,149.

**Pike**—Meta-Kimper Rd., 2 mi.; George H. Cheek Construction Co., \$50,891.

**Floyd**—Lackey-Wayland-Beaver Gap, 2 mi.; Johnson—Driveways at Mayo State Vocational School, 1 mi.; **Magee**—Saversville-Prestonsburg Rd., 1 mi.; **Marshall**—Inez-Louisville Rd., 2 mi.; Adams Tr. and Construction Co., Paintsville, \$61,298.

**Calloway**—Ky. 94-Dexter Rd., 2 mi.; Ford-Holman Construction Co., Bardwell, \$80,779.

**Franklin**—Benson-Bridgeport Rd., 4 mi.; Sam Nally Co., Bardstown, \$66,909.

**Grant**—Corinth-Cordova Rd., 4 mi.; Tye & Willis, Carrollton, \$81,626.

**Greene**—Letchfield-Grayson Springs Rd., 3 mi.; Ruby Construction Co., Madisonville, \$42,171.

**Johnson**—Paintsville-Tudor-Lawrence County Line Rd., 5 mi.; Lovell & Hart Construction Co., Lexington, \$104,363; Nippa-Tudor-Ky. Rd., 2 mi.; Adams Trucking & Construction Co., Paintsville, \$13,115.

**Larue**—Pine Top Rd., 2 mi.; McShorter-Congo-Langnau Rd., 2 mi.; Greer Brothers & Bullock, London, \$123,953.

**Lewis**—Fears-Mason County Line Rd., 7 mi.; Gorman Construction Co., Flemingsburg, \$87,171.

**Pendleton**—Newman Rd., 5 mi.; House & Spain, Falmouth, \$35,534.

**Perry**—Maces Creek-Viper-Cornettsville Rd., 1 mi.; Viper-Farler Rd., 2 mi.; Greer Brothers & Bullock, London, \$123,953.

**Trigg**—Benton Bridge-Rockcastle Rd., 4 mi.; Mason & Bacon, Inc., Frankfort, \$65,288.

**Boyd**—Garner-Rush Rd., 3 mi.; Coalton-Tract Rd., 3 mi.; Whites Creek Rd., 3 mi.; **States**—Bituminous Corp., Ashland, \$59,548.

**FRANKFORT**—State Highway Department let contracts for projects in following counties:

**Bowling Green**—Davylle-Stanford Rd., 1 mi.; R. R. Dawson Bridge Co., Bloomfield, \$108,055.

**Clay**—Harlan Branch Rd., 0.2 mi.; Wellner Contracting Co., Winchester, \$171,420; bridge approaches.

**GILBERTSVILLE**—State selected Lawrence Casner, Madisonville, for 50-room hotel in Kentucky Lake State Park, \$400,000.

**HENDERSON**—City has capital grant reservation of \$150,000 for slum clearance and redevelopment projects.

**LEXINGTON**—Veterans Administration, Construction Service, Washington, D. C., received low bid from Hargett Construction Co., \$243,755, for utility shops and garage building, Veterans Administration Hospital.

**LEXINGTON**—City has capital grant reservation of \$438,761 for slum clearance and redevelopment projects.

**LOUISVILLE**—Louisville & Nashville Railroad has ordered 41 new diesel-electric locomotives for road freight and yard service, \$6,500,000.

**LOUISVILLE**—Suburban Stores, Inc., let contract to Dahlberg Construction Co., for shopping center, \$100,000.

**LOUISVILLE**—State Highway Department, Frankfort, let contract to George M. Eady Co., \$515,397, for four-lane road of 2.8 miles of Preston Highway.

**MAYSVILLE**—City plans treatment plant and revisions to sewer system, \$815,000.

**NEWPORT**—City has capital grant reservation of \$21,100 for slum clearance and redevelopment projects.

**OEVENSBORO**—City has capital grant reservation of \$249,270 for slum clearance and redevelopment projects.

**SCOTTSVILLE**—Allen County Commissioners let contract to McChesney Construction Co., Bowling Green, \$245,123 for Allen County War Memorial Hospital.

## LOUISIANA

Department of Highways, Baton Rouge, let contract to T. L. James, Ruston, \$371,289, for Prairieville-Bayou Manchac line of Airline Highway.

**ALEXANDRIA**—Department of Public Works, Baton Rouge, received low bid from Delta Equipment & Construction Co., 2219 Plank Rd., Baton Rouge, \$104,375, for earth dam and reinf. conc. and riprap spillway structure and excavated discharge channel in Cedar Lake Dam for Department of Wild Life and Fisheries.

**ALEXANDRIA**—City Council let contract to Earl W. Baker & Co., Oklahoma City, Okla., \$275,720, for Storm Drainage Work Contract Designation Project No. 8.

**BAKER**—East Baton Rouge Parish School Board, Baton Rouge, let contract to Perillat-Rickel Construction Co., Inc., Baton Rouge, \$16,700 for auditorium-gymnasium at Baker High School.

**BASTROP**—Police Jury of Morehouse Parish let contract to Joe W. Hendrix, Shreveport, \$241,720, for drainage work in Morehouse Parish.

**BATON ROUGE**—Board of Supervisors of Louisiana State University recommended the employment of Smith & Padgett, Monroe, Architects, and George P. Price, New Orleans, Enger, to prepare plans for \$1,500,000 LSU stadium enlargement.

**BATON ROUGE**—Department of Highways let contract for project in following parish:

**West BATON ROUGE**—Anchorage overpass on Port Allen-Mississippi river bridge hwy.; Pfeifer Construction Co., Meridian, Miss., \$413,531.

**BATON ROUGE**—Department of Highways received low bids for projects in following

*(Continued on page 18)*

# Southern Construction Projects

## LOUISIANA

(Continued from page 17)

### parishes

**Rapides**—Proj. 9-01-21, Fed. Aid Proj. F-77 (2), Rt. 1&5; 5.301 mi. grade, drain. struc. patching and widening existing conc. pavt. bitum. surf. course; Sam Finley, Inc., Atlanta, Ga., \$209,373.

**St. Landry**—Proj. 12-34-02, Fed. Aid Proj. F-1697 (2), Rt. 7; 6.357 mi. grade, drain. struc. W. R. Aldrich & Co., \$201,504.

**Natchitoches**—Proj. 53-05-11, Fed. Proj. Aid Sec. Proj. S-48(1), 6.894 mi. grade, small drain. struc., Portland cement conc. pavt. Austin Roads Co., Dallas, Tex., \$420,942.

**Ascension and St. James**—Proj. Nos. 63-01-30 & 63-09-20, Fed. Aid Sec. Proj. S-112 (2), Rt. 30; 11.384 mi. grade, small drain. struc. soil cement base course, or as alternate, aggr. type base course, bitum. surf. treat.; W. H. Patterson & Co., \$366,712.

**Lincoln**—Proj. 308-08-05, Rt. 102, 6.881 mi. shaping roadway, drain. struc., aggr. type surf.; Wimberly Construction Co., Arcadia, \$51,917.

**Allen**—Proj. 703-06-80, Pt. 1, 5.33 mi. washed grav. surf. course; Panky Wheat, Oakdale.

**East Feliciana**—Proj. Nos. 250-03-05 & 250-04-05, Fed. Aid Sec. Proj. S-69(3), Rt. 91, 8.999 mi. grad., reinf. conc. deck girder bridges, drain. struc. grav. base course, or as alternate, soil cement base course, bitum. wearing course (1st 3 mi.) bitum. surf. treat. (asph. cement) (2nd 3 mi.), bitum. surf. treat. (cutback asph.) (3rd 3 mi.), Barber Brothers, \$321,997.

**Lafourche**—Proj. 407-01-06, Pontoon Bridge over Bayou Lafourche at Golden Meadow, Rt. 77, 0.036 mi. grad., timber bridges, shell surf. course, welded steel pontoon barge power unit; Sam Carlisle, Inc., Berwick, \$35,583.

**BATON ROUGE**—Department of Public Works let contracts for projects in following parishes:

**Lafayette**—506,100 yds. earthwork; Glaser Construction Co., Lafayette, \$148,000.

**Livingston**—433,100 yds. earthwork; Huber Brothers, Plaquemine; \$67,130.

**Franklin**—898,100 yds.; Looney Brothers, Columbia, \$173,105 and 279,900 yds. earthwork; Hyde Construction Co., Jackson, \$36,105 and 720,100 yds. earthwork; Looney Brothers, \$73,450.

**Morehouse**—1,580,800 yds. and 30 acres clearing and grubbing; Joe W. Hendrix, Shreveport, \$241,720.

**BATON ROUGE**—Department of Highways let contracts for projects in following parishes:

**Sabine**—Grav. surf. and trestle bridges on Hwy. 143; E. A. Caldwell, \$145,162.

**Beauregard**—Blacktopping 1.485 mi. of De Ritter Hwy.; Klopsteg, \$111,602.

**BATON ROUGE**—Department of Highways received low bid for project in following parish:

**Jackson**—State Proj. 285-06-06, Rt. C-2108; 0.399 mi. 3 reinf. conc. multiple box culverts, 6 conc. slab bridges, grad. and conc. pavt. approach; M. E. Pollard, Box 127, Bossier City, \$222,270.

**BATON ROUGE**—Gordon Ogden & Gordon Ronaldson let contract to Biquet & LeBlanc, P. O. Box 480, \$129,583 for Gordon Theatre bldg.

**BATON ROUGE**—Guaranty Income Life Insurance Co. let contract to Barksdale &

LeBlanc, P. O. Box 1567, \$167,000 for alterations & renovations to old Baton Rouge General Hospital.

**Bogalusa**—City plans elevated roadway to overpass Gulf, Mobile & Ohio Railroad and Gaylord Container Corp. tracks, \$492,676.

**Bossier City**—Shamrock Apartments, Inc. has construction underway for 50 duplex homes in Barksdale Annex subdivision, \$600,000.

**Bossier City**—Palmetto Golf Course & Country Club let contract to W. A. Gray Construction Co., Shreveport, for club house, \$125,000.

**Colfax**—Corps of Engineers, New Orleans, let contract to Hough-Cowgur & Co., St. Louis, Mo., \$111,025 for, 2,250 lin. ft. pile dikes on Red River.

**Coushatta**—C. Scott Yeager, Alexandria, Archt., has plans in progress for administration building for Red River Parish, \$100,000.

**Franklin**—Corps of Engineers, New Orleans, received low bid from Emanuel & Bean, Plaquemine; \$237,240 for earthwork, grad. and surf. 8,190 lin. ft. roadway on West Atchafalaya Basin Protection Levee.

**Grettna**—Salem Evangelical Lutheran Church let contract to Bernard & Byrd, Inc., for church, \$103,787.

**Houma**—First Baptist Church received low bid from W. A. Gray Construction Co., New Orleans; \$119,468 for educational bldg.

**Jennings**—Jefferson Davis Parish School Board let contract to Tudor Construction Co., Alexandria, \$549,212 for new Jennings High School.

**Lafayette**—Lafayette Parish sold \$100,000 bond issue for parish library to Barrow, L. C., \$100,000.

**Lafayette**—Housing Authority let contract to R. P. Farnsworth & Co., Inc., Baton Rouge, \$673,000 for housing projects LA 5-1 & LA 5-2.

**Lafayette**—Department of Highways, Baton Rouge let contract to Austin Bridge Co., Dallas, Texas, \$220,000.

**Lafayette**—Housing Authority let contract to T. Miller & Sons, \$356,921 for municipal library.

**Lake Charles**—Calcasieu Parish School Board approved \$250,000 bond issue for school District 25.

**Lake Charles**—City Council let contract to T. Miller & Sons, \$356,921 for municipal library.

**Lake Charles**—Lake Charles School Board let contract to T. Miller & Sons, \$696,477 for addition and remodeling Lake Charles High School.

**Leesville**—State Department of Public Works received low bid from Gravier & Harper Alexandria; \$438,382 for earth dam and reinf. conc. and riprap spillway struc. and excavated approach and discharge channel for Bayou Anacoco Dam.

**Morganza**—Corps of Engineers, New Orleans, received low bid from Farnsworth & Chambers Co., Inc., Houston, Texas, \$5,269,069 for Morganza Floodway Control Structure.

**Natchitoches**—State Board of Education, Baton Rouge, let contract to R. J. Jones & Son, Alexandria, \$449,999 for science building.

**Below**—Huber maintainers, one of which is shown, were used during construction of the new Maxwell Heights apartment project at Atlanta, Ga. Typical operations were grading sites for the houses and grading of parking areas. The machines are owned by Algernon Blair, general contractor, and Hewitt Contracting Co., subcontractor.



ing at Northwestern State College.

**NEW ORLEANS**—Purchasing Agent of the Charity Hospital received low bid from Perrilliat-Rickey Construction Co., Inc., \$493,664 for alterations to third floor of Charity Hospital of Louisiana for Neuro-Psychiatric Center.

**NEW ORLEANS**—R. P. Farnsworth & Co., Inc. submitted low base bid of \$256,600 for two-story Methodist Home Hospital.

**NEW ORLEANS**—Western Electric Co., Inc., New York, plans two-story warehouse, \$950,000.

**NEW ORLEANS**—Orleans Parish School Board let contract to Keller Construction Corp. for gymnasium at Isidore Newman School, \$100,000.

**NEW ORLEANS**—Board of Commissioners of Port of New Orleans let contract to Pittman Contracting Co., Inc., \$145,541, for concrete foundations on timber piling for port.

**NEW ORLEANS**—City has a planning advance of \$420,000 from Housing and Home Finance Agency to assist in plan preparation of a civic center, \$8,350,000; plan voting on bond issue.

**NEW ORLEANS**—Corps of Engineers let contract to W. A. Graymer & Co., Inc., Houston, Tex., \$504,322 for earthwork and emergency dam storage at Alton Lock.

**NEW ORLEANS**—Board of Supervisors of Louisiana State University, Baton Rouge, plan \$2,000,000 LSU Medical School.

**NEW ORLEANS**—Georgian, Inc. let contract to R. P. Farnsworth Co., Inc., for apartment on St. Charles Ave., \$1,249,000.

**NEW ORLEANS**—Board of Commissioners received low bid from Pittman Contracting Co., Inc., \$145,541, for concrete foundations on timber piling for Erato Street wharf.

**NEW ORLEANS**—Graybar Electric Co. let contract to Waiter Kidde Constructors, Inc., Houston, Tex., for one-story warehouse and office building, \$190,000.

**NEW ORLEANS**—New Orleans Union Parishes Formula Committee let contract to Keller Construction Corp., \$342,000 for Diesel Shop building and A. N. Goldberg, Inc., \$33,384, for S. Broad Avenue Drainage Canal bridge.

**NEW ORLEANS**—Jung Hotel let contract to J. A. Jones Construction Co., Charlotte, N. C., \$2,030,000 for addition to hotel, \$3,000,-000.

**Rapides Parish**—Board of Commissioners of Waterworks District No. 3 let contract to Swilling and Boyd, Waco, Texas, \$1,114,000 for complete waterworks transmission and distribution facilities and pumping station in Waterworks District No. 3.

**Ravilla**—Richland Parish School Board let contract to Morris Lumber Co., Delhi, \$269,787 for elementary school.

**Richland and West Carroll Parishes**—Corps of Engineers, Vicksburg, Miss., received low bid from Ace Mining & Contracting Co., Inc., Little Rock, Ark., \$1,66,679, for Big and Colewood Creek Channel Improvement.

**Shreveport**—Young Womens Christian Association plans YWCA bldg., at Edwards St., \$530,000.

**Shreveport**—City Council let contract to Southern Builders, Inc., \$686,500 for two-story terminal building for Shreveport Municipal Airport.

**Shreveport**—Wolf's Bakery, Inc. let contract to F. O. Gilbert, Bossier City, for commercial building, \$312,000.

**Tallulah**—Madison Parish School Board sold \$600,000 bond issue to Scharrf & Jones, Inc. of New Orleans for school construction.

**Winnsboro**—Franklin Parish let contract to T. L. James Co., Inc., Ruston, \$413,051, for street improvements.

**Winnsboro**—Franklin Parish let contract to J. A. Harper, Crowley, \$553,867 for 3-story courthouse and jail building.

**Winnsboro**—Department of Public Works, Baton Rouge, received low bid from T. L. James & Co., Inc., Kenner, \$131,109, for earth dam and reinf. conc. and riprap spillway and excavated discharge channel.

## MARYLAND

**Aberdeen**—Department of Defense seeking funds for research facilities for air-to-ground rockets and missiles at Aberdeen Proving Ground, \$200,000.

**Annapolis**—Department of Defense seeking funds for submarine propulsion test facilities at Naval Engineering Experimental Station, \$2,000,000.

**Annapolis**—Anne Arundel County plans storm drainage projects, \$712,535.

**Aberdeen**—Department of the Army seeking \$2,500,000 to provide climatic testing facilities at Aberdeen Proving Ground; also

(Continued on page 20)



## HOW MANY DAYS IN A WEEK?

**"TWENTY-  
ONE,"**

says  
**Geo. W. Longfellow**



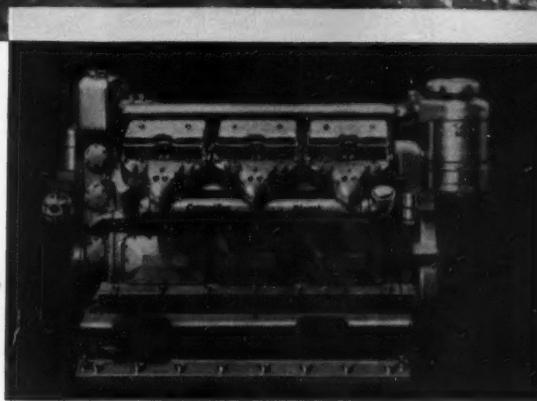
Mr. Longfellow is right—when you look upon twenty-four-hour going as the equivalent of three normal working days. That is the equipment-torturing schedule followed on the channel relocation project at East Alton, Ill.

Speaking with pride of the recently installed "Cat" D386 Engine that drives his big Bucyrus-Monighan walking dragline, Mr. Longfellow said: "She's working a '21-day' week, has plenty of power—and can really take it."

Running continuously for long stretches at varying capacities is one of the performance feats so typical of "Caterpillar" Engines. Delivering their full horsepower output whenever called upon is another. Compactness, easy installation, economical fuel consumption, minimum maintenance costs, and almost incredibly long life are still other advantages for high production and maximum profits. They are swaying contractors everywhere toward specifying "Cat" Engines with the new equipment they buy and to replace "ailing" or inadequate units in old equipment.

A "Cat" Diesel may be just the thing for giving your crane, shovel, dragline or dredge a new lease on life—or the extra power it needs to make it more productive. Let your "Caterpillar" dealer make a survey and a cost estimate. He's as near as your telephone.

**CATERPILLAR** • PEORIA, ILLINOIS



The powerful "Cat" D386 installed in the Longfellow dragline develops 400 hp. max.; 380 hp. rated; 320 hp. continuous, at 1200 rpm. and with full equipment except radiator fan.

### LOOK UNDER THE HIDE



"Caterpillar" intake and exhaust valves are made of highly alloyed, heat-resistant steels. Their ample size, close machining and heat treat specifications have resulted in thousands of hours of trouble-free valve operation. Valve and rocker arm designs are matched to reduce wear. *Look under the hide for "Caterpillar" quality and long-life features—they may not show on the outside but they show up in performance.*

# CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES • TRACTORS  
MOTOR GRADERS • EARTHMOVING EQUIPMENT

# Southern Construction Projects

## MARYLAND

(Continued from page 18)

\$181,000 for a high explosive loading and dispensing facility; \$10,000 for building to house auxiliary wind tunnel compressor.

**BALTIMORE**—Board of Estimates received low bids for following projects:

Contract 1083-AA—Cement cone; P. Reddington & Sons, 2 E. Lexington St., \$49,401; Contract 1084-A—Cement cone; Paramount Construction Co., Inc., 7611 Holabird Ave., \$62,300.

**BALTIMORE**—Board of Estimates let contract to Lembach Construction Corp., \$1,234,300 for Northwood Elementary School.

**BALTIMORE**—Fairhaven Construction Co. Inc. will construct residences, \$144,000.

**BALTIMORE**—Board of Estimates received low bid from J. H. Williams & Co., Inc., \$16,668 for swimming pool for negroes, Druid Hill Park.

**BALTIMORE**—Fenwick Corp. of Baltimore will build 19 residences, \$152,000.

**BALTIMORE**—Board of Estimates let contract to Jeffress-Dyer, Inc., Washington, D. C., \$211,000 for tuberculosis sanitarium etc. Baltimore City Hospitals.

**BALTIMORE**—Epiphany Lutheran Church let contract to S. E. Wantz & Sons Co. for church addition, \$100,000.

**BALTIMORE**—Arcadia Investment Corp. let contract to Baltimore Contractors, Inc., for mattress manufacturing building, \$125,000.

**BALTIMORE**—C. D. Kenny-Consolidated Grocer, Inc. let contract to National Industrial Contractors Co., Inc., Palo Alto, Calif., for building, \$260,000.

**BALTIMORE**—Building Committee of Maryland Jockey Club plans development of Pimlico race track, \$700,000.

**BALTIMORE**—Fred L. W. Moehle & Fenton & Lichtig, Associate Architects, have plans in progress for 250-unit low cost housing project on land adjoining Westport Homes, \$2,500,000.

**BALTIMORE**—Board of Estimates received low bid from A. S. Wikstrom, Inc., Sulphur Spring Rd. and Waelahl Ave., \$352,577, for underpass on extension of Mulberry St.

**BALTIMORE**—McClean Manor Corp. let contract to Hogan & Watt Realty Co., Inc., for apartment, \$130,000.

**BALTIMORE**—Uplands Home for Church Women let contract to Consolidated Engineering Co., Inc., for alterations, \$275,000.

**BALTIMORE**—Board of Estimates received low bids for following project:

Contract 1089-A—Pave highways with cement concrete; Pomer Construction Co., \$40,243.

**BALTIMORE**—State Roads Commission let contract for project in following county:

**St. Mary's**—Contract SM-281-715—highway improvement, Rt. 245, 2,992 miles; American Asphalt Products Co., First and P Sts. S.E., Washington, D. C., \$57,322.

**Below—Hetherington & Berner Motopaver operating on By-Pass Route 301, at Upper Marlboro, Md. The unit was furnished by Elphinstone, Inc., Baltimore construction equipment firm.**



Marriott

**BALTIMORE**—Board of Estimates let contracts for following projects:

Contract 1076—Macadam highway paving; Mueller Contracting Co., Arnold, Md., \$71,500.

Contract 1077—Macadam; American Paving & Contracting Co., 2525 Loch Raven Rd., \$93,740.

Contract 1080—Highway paving; P. Reddington & Sons, \$101,437.

Contract 1081—Highway paving; Callahan Paving Co., Inc., \$101,437.

Contract 1082—Highway paving; Baltimore Asphalt Block & Tile Co., \$125,883.

**BALTIMORE**—State Roads Commission let contracts for projects in following counties:

**Frederick**—Contract F-425-11-615; steel beam and concrete underpass to carry Washington National Pike over highway road at Fire Tower Rd. Bridge has dual superstructures, including grading and paving of county road leading through underpass, 0.20 mi.; P. D. Plummer & Sons, Chambersburg, Pa., \$127,216.

**Kent**—Contract K-80-1-215; 3-cell reinf. box culvert; 100-ft. underpass approach; John T. Sheetz Co., Halethorpe, Md., \$99,037.

**BALTIMORE**—Board of Estimates let contract for following project:

Contract 1079—Sheet asph. resurf. and bituminous cone surf.; Arundel Construction Co., Inc., \$161,306.

**BALTIMORE**—State Roads Commission let contracts for projects in following counties:

**Anne Arundel**—Contract AA-101-2-215; gray surf. and bitum. base, 4,951 mi.; F. P. Asher Jr. & Sons, Annapolis, \$304,697.

**Anne Arundel**—Contract AA-368-8-358 grad, drain and surf. dual highway, grade separation struc. and approaches at Dorsey Rd. and grad. and surf. connecting ramps at Dorsey Rd., 1,583 mi.; Nello L. Teet Co., Durham, N. C., \$353,000.

**Allegany**—Contract A-382-1-617, FAP S-443 (3) sandstone base course, 1,191 mi.; George F. Hazelwood Co., Inc., Cumberland, \$73,511.

**BALTIMORE**—Board of Estimates let contract for following project:

Contract 1085-AA—Cement cone, paving; Camden Construction Co., Inc., \$71,728.

**BALTIMORE**—Board of Estimates let contracts for following project:

Contract 1083-AA—Street paving with cement cone; P. Reddington & Sons, \$49,401.

Contract 1084-AA—Cement cone; Paramount Construction Co., Inc., \$62,653.

**BALTIMORE**—State Roads Commission let contracts for projects in following counties:

**Caroline**—Contract CO-209-1-215; macadam base, penetration macadam base widening, bitum. cone base and surf. course result, 3,214 mi.; T. B. Gatch & Son, Inc., \$218,337 for gravel.

**Frederick**—Contract F-380-L-613; relocation-reinf. cone surf. connection to existing road, bitum. cone surf., including single span steel I-beam bridge on conc. abutments over Tus-

carora Creek, 0.568 mi.; L. R. Waesche & Sons, Inc., Thurmont, Md., \$143,333 for stone.

**Cecil**—Contract CE-333-215; resurf. various streets, 3,246 mi.; Bituminous Construction Co., Inc., \$68,894 for slag.

**BALTIMORE**—State Roads Commission let contract for project in following counties:

**Kent and Queen Anne's**—Contract K-17-1-215; 1,242 mi.; steel beam and conc. bridge on cast-in-place cone piles; McLean Contracting Co., \$195,467.

**BALTIMORE**—State Roads Commission let contracts for projects in following counties:

**Frederick**—Contract F-423-3-615; steel beam and cone underpass, dual superstructures; J. Melvin Roberts, Cockeysville, \$101,437.

**Frederick**—Contract F-424-12-615; steel beam bridge, dual superstructures, including stream change; Camden Construction Co., Inc., \$121,195.

**BALTIMORE**—State Roads Commission received low bids for projects in following counties:

**Charles**—Contract CH-264-2-515; 6 mi. widening, resurf. and relocation on States 3 and 53; F. P. Asher & Sons, Annapolis, \$439,830.

**Charles**—Contract CH-265-2-515; 5 mi. over-haul project on Rt. 225; F. P. Asher & Sons, \$324,549.

**Caroline**—Contract CO-215-2-215; 3½ mi. surf. Bituminous Construction Co., Inc., \$40,401.

**Montgomery**—Contract M-383-3-315; bridge; Baltimore Contractors, Inc., \$324,774.

**BALTIMORE**—Board of Estimates let contracts for following projects:

Contract No. 1086-AA—Paving Franklin St. Mulberry St. with cement conc.; Paramount Construction Co., Inc., \$124,973.

Contract No. 1087-AA—Paving Cooks Lane with cement conc.; Trinity Building & Construction Co., \$82,308.

**BALTIMORE**—Property Sales Co. will construct 52 residences, \$322,950.

**BALTIMORE**—Kimberleigh Homes Corp. will construct 12 residences, \$120,000.

**BALTIMORE**—Endonale Building Co. will construct 18 residences, \$33,000.

**BALTIMORE**—William J. O'Meara will construct 26 residences, \$156,000.

**BALTIMORE**—Henry Building Co. will construct 117 residences on Broening Hwy., \$585,000.

**BALTIMORE**—Chemical and Pigment Company Division of Gifford Co. has permits for erection of one-story steel building for manufacturing of pigment and one parking lot, \$138,000.

**BALTIMORE**—Pemco Corp. let contract to Consolidated Engineering Co., Inc., for storage building, \$100,000.

**BALTIMORE**—Department of Public Improvements recommended award of contract to Joseph F. Hough & Co., Inc., \$102,862 for psychiatric unit, University Hospital.

**BALTIMORE**—Board of Estimates let contract to Charles R. Scrivener Co., Inc., \$1,222,377 for elementary school, Armistead Gardens.

**BALTIMORE**—Board of Estimate let contract to Square Construction Co., \$110,778 for street paving, \$12,000.

**BALTIMORE**—Hillside Steel Company of Maryland let contract to Lauter Construction Co. for warehouse, \$150,000.

**BALTIMORE**—Canton Company of Baltimore, \$1,000,000 improvements to its lower Canton ore pier and purchase of majority stock in the Cottman Co.; contract for conveyor system has been let to Robbins Engineers, New York. Canton Railroad, subsidiary of Canton Co., will enlarge its supporting yards for ore pier.

**BALTIMORE COUNTY**—Keystone Realty Co., Inc., will construct seven residences, \$112,000.

**BALTIMORE COUNTY**—Columbia Construction Co. let contract to Superior Construction Co. for 36 residences, \$198,000.

**BALTIMORE COUNTY**—Gilbert Construction Co. plans 36 dwellings, \$234,000.

**BALTIMORE COUNTY**—Guzzo Construction Co., Towson, will construct 20 residences, \$140,000.

**BALTIMORE COUNTY**—Ralph W. Simmers & Son, Inc., Towson, will construct 150 residences, \$1,400,000.

**BALTIMORE COUNTY**—Oak Ridge Building Co. will construct 22 residences, Ridgeleigh Dev., \$165,000.

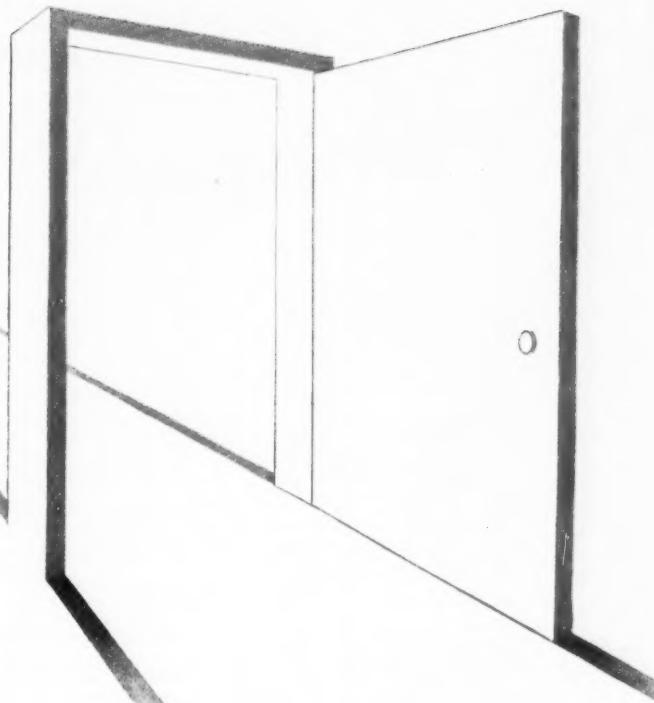
**BALTIMORE COUNTY**—County Commissioners, Towson, approved \$700,000 for sanitary sewer projects.

**BETHESDA**—Henry J. Connor will construct shopping center, \$1,000,000.

**BETHESDA**—Public Buildings Service, Washington, D. C., let contract to McCloskey

(Continued on page 22)

## cement with a future\*



\*In an up-to-the-minute laboratory, with know-how built on years of practical experience, our technical research men constantly are working to make tomorrow's Hermitage Cements better than today's.

PORTLAND  
HIGH EARLY STRENGTH  
AIR ENTRAINING  
MASONRY



**Hermitage Portland Cement Company • AMERICAN TRUST BUILDING, NASHVILLE 3, TENN.**

SEPTEMBER, 1950

# Southern Construction Projects

## MARYLAND

(Continued from page 20)

& Co., Philadelphia, Pa., \$243,000 for alterations and mechanical repairs, National Institute of Health.

**CAMP DRETRICK**—Department of Defense seeking funds for assault science buildings, \$4,250,000.

**CATONSVILLE**—Department of Public Improvements, Baltimore, recommended award of contract to Charles R. Scrivener Co., Inc., Baltimore, \$925,000 for building for disturbed women, Spring Grove State Hospital.

**COLLEGE PARK**—Victor Frenkl, chairman of Fund Raising Committee, plans campaign to raise \$125,000 for new Jewish student center, campus of University of Maryland.

**EDGEWOOD**—Department of the Army seeking \$1,551,000 for following projects at Army Chemical Center: protective equipment laboratory, \$400,000; explosive test chamber, \$400,000; collective, protective and air filter laboratory, \$350,000; facilities for assembling of clusters, firebombs, \$301,000; test chamber for acoustics, \$75,000; high-pressure laboratory, \$25,000.

**EDGEWOOD**—Department of Defense seeking funds for radiological "cold" and "hot" laboratories, defense schools, storage building, Army Chemical Center, \$1,310,000.

**FREDERICK**—Department of the Army seeking \$1,500,000 for following projects at Camp Detrick: \$476,000 for a chemical and physical laboratory, \$373,500 for a pilot plant for crop studies; \$300,000 for maintenance shops; \$181,400 for a meteorological building; \$171,500 for a dormitory to house 50 civilians; \$30,000 for a munition and surveillance building, and \$9,000 for a crop development storage.

**FREDERICK**—Frederick Gas Co. has applied for permission to install lines carrying natural gas to Frederick from Rockville, \$350,000.

**HAGERSTOWN**—Board of Education plans 8-classroom addition to Fountaintdale School, \$374,000.

**JESSEPS**—Harold E. Donnell, Superintendent of Prisons, announced ground will be broken soon for first of three units for treatment of specialized groups of prisoners in Maryland, \$1,250,000.

**LA PLATA**—Charles County School Board plans new elementary school at Wayside, on New Castle Bay Point, \$1,000,000.

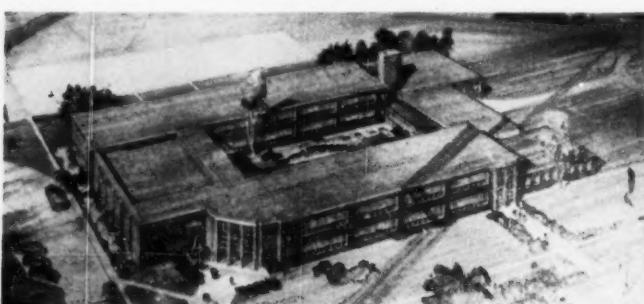
**MOINT WASHINGTON STATION, BALTIMORE**—Children's Rehabilitation Institute Board of Volunteer Directors, acquired site adjoining Bonnies View golf course for new outpatient center; plans financial campaign to raise \$2,000,000.

**PABOLE**—Henry A. Knott Co., Baltimore, will construct housing project, \$3,000,000.

**PAUXENT RIVER**—Department of Defense seeking funds for testing facilities and catapults for Naval Air Test Center, Patuxent River, \$1,110,000.

**SILVER SPRING**—Montgomery County Board of Education, Rockville, let contract to John Tester & Son, Inc., Washington, D. C., \$1,019,207 for Eastern Suburban Junior High School.

**Below**—Ronald S. Sensemam, architect of Takoma Park, Md., announces that low bidder for the proposed Eastern Suburban junior high school at Silver Spring, was John Tester & Son, Inc., of Washington, D. C., at \$1,019,207. Second low was Joseph F. Nebel Co., \$1,047,000, and third low bidder was Blake Construction Co., \$1,068,000.



**SUTLAND**—Public Buildings Service, General Services Administration, Washington, D. C., received low bid from L. T. Washington & Son, Washington, D. C., \$118,884 for lighting, Federal Office Building.

**SYKESVILLE**—Department of Public Improvements, Baltimore, recommended award of contract to Mullan Contracting Co., Baltimore, \$1,939,864 for building for disturbed men and one for disturbed women, Springfield State Hospital.

## MISSISSIPPI

Washington County Board of Trustees, Greenville, received low bid from Lancaster Builders, Greenville, \$88,000 for residence at Pettit and school, Glen Allan.

**ABERDEEN**—City plans additional school facilities for white and negro students, \$125,000.

**ABERDEEN**—Board of Supervisors of Monroe County let contract to Blount Brothers Construction Co., Inc., Alab., \$1,934,900 for incidental grad. and drain on Parham Store-Alabama State Line Rd., and Memphis Stone & Gravel Co., Memphis, Tenn., \$21,841, for 5.25 mi. bitum. surf. in Monroe County.

**AMORY**—City plans extensions to sanitary sewer system, \$237,600.

**ATLALA AND LEAKE COUNTIES**—Bureau of Public Roads, Florence, Ala., received low bid from Southern Quarries & Construction Division of New York Coal Sales Co., \$451,031, for Natchez Trace Parkway Project 3L6-3M13 for 19.433 mi. asphalt pav., etc.

**BELZONI**—Delta Natural Gas District let contract to Clement Betpouey Jr. & Co., New Orleans, La., \$559,628 for natural gas transmission & distribution lines, \$460,000.

**BILLOW**—Delta Electric Power Association, Washington, D. C., received low bid from Southeastern Electric Construction Co., Andalusia, Ala., \$64,707 for rehabilitation outside electrical distribution system.

**BILLOW**—St. John's Church received low bid from B. L. Knost, Meridian, \$45,762 for St. John's Catholic School.

**BOONVILLE**—City sold \$675,000 revenue bonds for natural gas distribution system to Saunders & Ross, Memphis, Tenn., Watkins & Morrow, Birmingham, Ala., Weil & Arnold, New Orleans, La., Walter Headline, Cincinnati, Ohio.

**BROOKHAVEN**—Mayor and Board of Alderman received low bid from Southern Engineering & Construction Co., Laurel, \$45,752 for new municipal works system.

**CLARKSDALE**—Comanche Electric Power Association received low bid from Logan C. Cline Construction Co., Memphis, Tenn., \$109,732 for REA headquarters bldg.

**CLEVELAND**—Board of Trustees of Cleveland Colored Consolidated School District let contract to Starr Construction Co., May Bldg., Greenville, \$98,799 for 12-room school building.

**CLEVELAND**—Jewish Temple received low bid from I. W. Havard, Canton, \$43,500 for additions.

**COLUMBUS**—Board of Trustees plans high school for white and high and elementary school for negroes, \$750,000.

**CORINTH**—Masonic Temple plans temple, \$80,000.

**DECATUR**—Board of Trustees of East Central Junior College let contract to Central Construction Co., Philadelphia, \$662,123 for cafeteria and alterations to present gymnasium and dormitory.

**GREENWOOD**—Board of Trustees plans improvements and additions to athletic facilities at Greenwood schools, \$100,000.

**GREENWOOD**—Greenwood-Leflore Hospital let contract to S. L. McGinnis Construction Co., \$64,180 for two-story addition to nurses home.

**GULFPORT**—City Commission sold \$300,000 in bond issue to Equitable Security Corp., Nashville, Tenn., Union Planters National Bank and Trust Co., Memphis, Tenn.; and M. A. Saunders and Co., Inc., Memphis, Tenn.

**GULFPORT**—City plans are nearing completion for 100-bed hospital, \$1,000,000.

**LAURENS FIELD**—Corps of Engineers, Mobile, Ala., let contract to Armour Contractors, Mobile, Ala., \$119,256 for alterations to buildings for ORC.

**HOLLANDALE**—Twin County Electric Power Association let contract to William H. Alsup and Assocs., Jackson, \$147,616 for 50 miles of new line and 95 miles of rehabilitation work.

**JACKSON**—State Highway Department let contracts for projects in following counties:

**Marshall and Benton**—Mississippi, Forest Highway Proj. No. 4-A, Cont. 2, 10.737 mi. incidental grad., base, double bitum. surf. treat. and bridge surf.; Delta Paving Co., Inc., Jackson, \$110,875.

**Lancaster and Copiah**—Proj. S-44(4), 4,999 mi. incidental grad., drain, base preparation and double bitum. surf. treat. on Hwy. 27, Roadbuilders Construction Co., Brookhaven, \$45,222.

**Perry**—Proj. S-48(3), 5,999 mi. incidental grad., reconstr. base, double bitum. surf. treat. on Hwy. 42; Harbert & Cargile, Inc., Mobile, Ala., \$40,985.

**Perdido**—Proj. S-67(5), 0.024 of a mi. incidental grad., bridge and rein. conc. bridge and pav. on Hwy. 3, John H. Moon, Port Gibson, \$37,968.

**Clay**—Proj. S-99(2), 9,472 mi. grad., drain, culverts, bridge, boy bridge and double bitum. surf. treat. on Hwy. 10; Boyd Construction Co., Columbia, \$360,981.

**Pike**—Proj. S-17(2), 2,268 mi. grad., drain, culverts and double bitum. surf. treat. on Hwy. 570; Cobb Brothers Construction Co., Meridian, \$35,036.

**Humphreys and Holmes**—Proj. S-252(5), 8,870 mi. incidental grad., drain and grav. surf. course on Hwy. 12; Blount Brothers Construction Co., Tuskegee, Ala., \$368,980.

**Itawamba**—Proj. S-261(5), 1.951 mi. grad., drain, culverts and surf. course, bridge and boy bridge; Paul Anthony Construction Co., Inc., Tupelo, \$71,083.

**Union**—Proj. F-294(3), 8,227 mi. incidental grad., drain, culverts, base and double bitum. surf. treat. on Hwy. 30; Linwood Smith, Lake Village, Ark., \$139,205.

**Lafayette**—Proj. F-294(5), 7,220 mi. incidental grad. and drain, base and double bitum. surf. treat. on Hwy. 10; R. B. Tyler Co., Louisville, Ky., \$94,477.

**Itawamba**—S-319(1) & S-349(1), 1,574 mi. grad., drain, culverts, grav. surf. course and bridge; Newsom Brothers, Columbia, \$30,313.

**Tishomingo**—S-342(1), 3,459 mi. grad., drain, culverts and grav. surf. course; Rippy Brothers Contractors, Gulfport, \$17,777.

**Hinds and Warren**—S. P. O.-80-1181(1), river bank protection at Big Black River bridge on Hwy. 80, John H. Moon, Port Gibson, \$33,456.

**Warren**—Proj. F-201(10), 0.839 of a mi. incidental grad., drain, culverts, and rein. conc. pav. on U. S. Hwy. 61; Clark Brothers Co., \$103,418.

**JACKSON**—S. P. McRae Co. let contract to Jackson Construction Co. for enlarging store, \$225,000.

**JACKSON**—City approved issuance of \$500,000 bond issue for new city courts building; \$600,000 bond issue for new library facilities; \$250,000 for purchase of site for new civic center, and \$250,000 bond issue for renovation and additions to parks and playground facilities.

**JACKSON**—City plans 6-lane east-west boulevard for relief of downtown traffic congestion, \$2,286,000.

**JACKSON**—Dr. Carter O'Farrall plans clinic, \$125,000.

**JACKSON**—City Council approved \$1,000,000 bond issue for waterworks improvements.

**JACKSON**—City Council approved \$2,000,000 bond issue for sewerage expansion program.

**JACKSON**—City Council approved \$8,500.

(Continued on page 24)



**OUTSTANDING**

*Performance!*

All over the country dirt-moving men are singing the praises of Hendrix Dragline Buckets! Why . . . ? Because they know they can get the most out of every job with a Hendrix on the job! Hendrix Buckets are large in capacity, yet light in weight, but also rugged in construction, providing swift, smooth, precision operation that gets more work done in less time. . . . All this spells **PERFORMANCE** . . . what you can expect and what you will get with a Hendrix Dragline Bucket!

THERE'S A TYPE AND SIZE  
TO FIT EVERY DIGGING PURPOSE!

3/8 to 40  
CUBIC YARDS



**HENDRIX**  
*Lightweight*  
**DRAGLINE**  
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For descriptive literature ask your dealer  
or write

**HENDRIX MANUFACTURING CO., INC.**

MANSFIELD - LOUISIANA

# Southern Construction Projects

## MISSISSIPPI

(Continued from page 22)

000 bond issue for new high school, junior high and elementary schools.

**JACKSON**—State Building Commission rejected all bids for repairs to field house and sewage disposal system at University of Mississippi, \$80,000.

**Kosciusko**—Mayor and Board of Aldermen of city received low bid from Building Service Co., West Point, \$485,000 for factory for Pathfinder Coach Division of Superior Coach Corp.

**Kosciusko**—Board of Trustees of Kosciusko Separate School District received low bid from Currie & Corley, Raleigh, \$126,500 for new school building and a new vocational building for colored.

**Kosciusko**—City sold \$650,000 industrial bond issue to syndicate composed of Union Planters National Bank & Trust Co., First National Bank, Herman Bensdorf & Co., and M. Saunders & Co., all of Memphis, Tenn.

**Lafayette**—City plans 25-bed general hospital for negroes, \$250,000.

**Lumberton**—M. A. Pigford let contract to Wally Construction Co., Richton, for store, theatre, auditorium, warehouse, \$150,000.

**MacOn**—Board of Trustees let contract to Myers and Quinn, Columbus, \$46,000 for two units of four classrooms each for elementary and high school.

**MacOn**—Board of Supervisors of Noxubee County let contract to Hinton Construction Co., Inc., Box 392, Laurel, \$325,899 for 41-bed Noxubee County Community Hospital and nurses home.

**Magnolia**—Magnolia Textile plant has started work with day labor on addition to mill, \$65,000.

**McComb**—Kraft Foods Co. plans cheese plant in Southwest Mississippi, \$300,000.

**Meridian**—City plans park development at Bonita Park waterworks site, \$300,000.

**Meridian**—First Presbyterian Church plans renovations, \$150,000.

**Morton**—Russell and Blaine Mt. Olive has contract at \$101,000 for paving portion of residential and business sections.

**Natchez**—A. B. Cook will construct col-

ored housing project, \$1,004,000.

**Natchez**—Board of Trustees, Natchez City Schools, plans two-story masonry school, \$2,000,000.

**Okolona**—Mayor and Board of Aldermen let contract to G. & K. Construction Co., Pascaugoula, \$74,492 for garment factory for Delta Trouser Co.

**Oxford**—Corps of Engineers, Vicksburg, received low bid from S. J. Cohen, Blytheville, Ark., \$473,225, for Prophet bridge crossing, \$100,000.

**Pascagoula**—Pascagoula Port Commission and city received low bid from Armino Drainage & Meat Products, Inc., Houston, Tex., \$57,000, for new metal warehouse building.

**Rosedale**—Mayor and City Council plans voting upon \$110,000 bond issue for waterworks and sewer system.

**Roxboro**—Bolin Natural Gas District let contract to B. & M. Construction Co., Jackson, \$182,000, for natural gas transmission main and distribution systems.

**Swett**—Mississippi Power Co. let contract to L. B. Priester & Sons, \$200,000, for superstructure of the steam-electric generating plant.

**Tullo**—City approved issuance of \$88,000 bond issue for improvement of Municipal Airport.

**Tylertown**—Transcontinental Pipeline Co. will construct gas compressor station, \$2,000,000.

**Tylertown**—Tylertown Baptist Church let contract to Southern Construction Co., Columbia, for educational building and church, \$115,000.

**Waynesboro**—Board of Supervisors of Wayne County plans health center, \$50,000.

## MISSOURI

Corps of Engineers, Kansas City, received low bids from Charles Hulme Construction Co., Great Bend, Kans., \$364,673, for 7½ mi. approach ramp levee on Missouri River.

**Chamois**—Central Electric Cooperative plans 15,000-kilowatt generating plant, \$300,000.

**Chillicothe**—Farmers' Electric Coop-

erative let contract to Berger Construction Co., Higginsville, \$422,071, for REA project.

**Florissant**—St. Ferdinand School District Board of Education, let contract to Robert Paulus Construction Co., \$130,502 for school.

**Fordland**—U. S. Air Force Engineers

plans giant radar detection station, \$2,000,000.

**Fort Leonard Wood**—Col. A. J. de Lorimier announced plans for reconditioning Fort Leonard Wood as army replacement training center, \$2,000,000.

**Independence**—Jones Store Co. plans department store, \$100,000.

**Jefferson City**—State Board of Public Buildings let contract to MacDonald Construction Co., St. Louis, \$3,077,232, for State office building.

**Jefferson City**—State Board of Public Buildings let contract to Schell Construction Co., \$170,546, for repairs to State Capitol Building.

**Joplin**—George N. Spiva let contract to Carr & Hubbard, Carthage, for residence, \$65,000.

**Joplin**—Missouri State Highway Department, Jefferson City, let contract to Johnson Construction Co., Springfield, \$132,400, for division office addition.

**Kansas City**—City has capital grant reservation of \$2,490,180 for storm clearance and redevelopment projects.

**Kansas City**—Board of Park Commissioners received low bid from Sharp Brothers Construction Co., \$77,265, for seal pool, Swope Park.

**Kansas City**—George Bennett Construction is low bidder for Broadway-Woodswether Viaduct, \$437,578.

**Kansas City**—Corps of Engineers received low bid from Massman Construction Co., \$364,718, for dike.

**Kansas City**—Pittsburgh Plate Glass Co., Pittsburgh, Pa., announced plans for one-story building, \$300,000.

**Lamar**—Barton County Electric Cooperative, Inc., let contract to Utilities Construction Co., Nashville, Tenn., \$142,224, for 95 miles of line plus 21½ miles of conversion.

**Lemay**—St. Martin, Tours Parish let contract to Kloster Co. for church and administration building, \$400,000.

**Licking**—Intercounty Electric Cooperative Association plans \$600,000 distribution line.

**MacOn**—Public Buildings Service, General Services Administration, let contract to Edwards Construction Co., Joplin, \$53,366, for mailing platform, screen line changes, post office.

**Overland**—City plans storm sewers in an area adjacent to St. Louis, \$694,000.

**Rolla**—University of Missouri plans engineering laboratory improvements and alterations to modernize mechanical hall, \$141,100.

**St. Charles**—Corps of Engineers, Kansas City, received low bid from Patton-Tully Transportation Co., Memphis, Tenn., \$276,181, for piling dikes and revetment in Missouri River.

**St. Louis**—General Metals Products Co. let contract to Gamble Construction Co. for addition to factory, \$110,000.

**St. Louis**—Theodore M. Vollmar will construct 3 residences on Oleatha St., \$80,000.

**St. Louis County**—M. Lasky & Co. let contract to Sam Brown & Sons Construction Co. for store and office building, \$500,000.

**St. Louis**—Union Electric Company of Missouri let contract to J. S. Alberici Construction Co., Inc., for additions to present garage, \$76,863.

**St. Louis**—Calvary Cemetery Association received low bid from Schneiderhahn Construction Co., Clayton, \$64,342, for service building.

**St. Louis**—Wells & Wells, Inc., will construct 24 residences, \$150,000.

**St. Louis**—Glen Oaks Corp. let contract to T. M. Vollmar for 5 residences, \$60,000.

**St. Louis**—Lake Forest Development Corp., 100 York St., plans shopping center, Richmond Heights, \$7,500,000.

**St. Louis**—Farrar & Farrar will construct 13 residences, \$130,000.

**St. Louis**—Rawlings Manufacturing Co. let contract to J. William Quigley Construction Co. for factory addition, \$100,000.

**St. Louis**—Tension Envelope Corp. let contract to Murch-Jarvis, Inc., for one-story

(Continued on page 36)

Below—Essex House, Birmingham. Pembleton & Mims, architects.





# 4 questions every dump truck user should ask about new International 6-wheelers

**QUESTION:** "I hear new Internationals are heavy-duty engineered. What does that mean to me?"

**ANSWER:** "Heavy-duty engineered" means that extra stamina and durability are built into every one of the thousands of parts that go into new International 6-wheel Trucks. This gives you the long life and savings in operation and maintenance that have kept Internationals first in heavy-duty truck sales for 18 years.

**QUESTION:** "What other assurance do I have that new International 6-wheelers will do a good job on *my* particular job?"

**ANSWER:** From new valve-in-head engine to new bogie assembly, every new International 6-wheel Truck is *specialized* for years and years of outstanding 6-wheel truck performance. In addition, every model has been *proved* right from every standpoint in actual 6-wheeler operation.

**QUESTION:** "What do new Internationals offer in the way of new advancements?"

**ANSWER:** You get the new Comfo-Vision Cab—"roomiest cab on the road." You get the new third differential that eliminates the need for an extra propeller shaft and a power divider, thereby reducing truck weight. You get new Super-steering and new Super-maneuverability for easier handling and turns in the shortest practical circle. You get a new valve-in-head engine, new frame, new improvements from bumper to tail light.

**QUESTION:** "Where can I find out *more* about how new International 6-wheel Trucks will cut my hauling costs?"

**ANSWER:** Get in touch with your nearest International Truck Dealer or Branch. He'll gladly give you facts and figures on the right 6-wheel model for you.

International Harvester Builds McCormick Farm Equipment and Farmall Tractors... Motor Trucks Industrial Power... Refrigerators and Freezers



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**ALL NEW, ALL PROVED**

# INTERNATIONAL TRUCKS

INTERNATIONAL HARVESTER COMPANY CHICAGO





**S. S. ESSAYONS.** World's largest ocean-going hopper dredge. 525 feet long, 10,000 tons, speed—15 knots empty. Designed by the Marine Division of the Philadelphia Office of the U. S. Army Engineers. Constructed by the San Shipbuilding and Dry Dock Company.

# IT SUCKS MUCK

## -120,000 GALLONS A MINUTE

**Tiger Brand Wire Rope helps keep traffic open  
in world's busiest harbor**



**HOIST FOR NOZZLES.** Note the smooth reeling and the heavy lubrication for preventing corrosion.

• The new Army Engineers' Hopper Dredge S. S. Essayons works like an underwater vacuum cleaner. She drops two huge suction nozzles to the harbor bottom and sucks up mud and silt at the amazing rate of 120,000 gallons a minute. No other dredge in the world can match this speed. She can fill her 8,000 cubic yards of hoppers in 40 minutes. Then she steams out to deep water and discharges the load.

The two suction nozzles are lowered and raised with American Tiger Brand Wire Rope. As this rope is in and out of salt water constantly, it is heavily lubricated to prevent corrosion. It must also resist vibration and abrasion and have plenty of strength to lift the heavy nozzles.

Tiger Brand Wire Rope and Strand have many other uses on board the Essayons—for hawsers, hoists, boom supports, rigging, guys and mooring lines. Each type is especially designed for its particular use.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO

COLUMBIA STEEL COMPANY, SAN FRANCISCO

TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM,

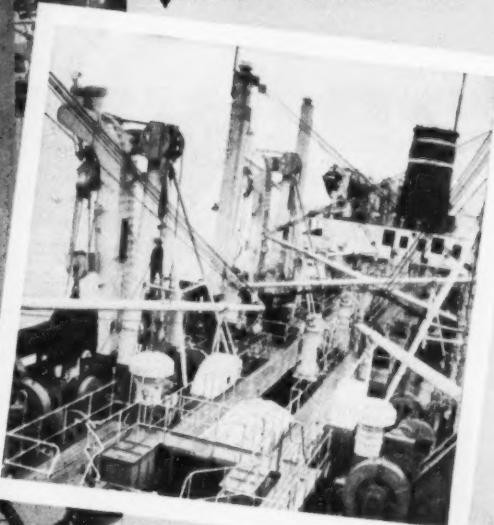
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*Judge it by the jobs it handles*



**TIGER BRAND WIRE ROPE DOES THE HEAVY WORK.**  
Everywhere you look on shipboard you see Tiger Brand Rope for hoisting cargo, lowering life boats, supporting booms and mooring the ship.



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No matter what application you have for wire rope, the Tiger Brand Specialist can help you select the kind that fits the job. Proper application and care will enable you to get the most service at the lowest cost. Call on the Tiger Brand Specialist for a wire rope check-up. There's no obligation.

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Please send me a copy of your catalog "American Tiger Brand Wire Rope."

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**LOWERING THE GIANT "SUCKERS."** A tough job where Tiger Brand Rope shows its strength and endurance. This rope is in and out of the water constantly and must withstand corrosion, abrasion, vibration and fatigue.



## **AMERICAN TIGER BRAND WIRE ROPE**

*Excellay Preformed*

**UNITED STATES STEEL**

# The New INTERNATIONAL TD-24



## HERE'S WHAT THE



Positive all-weather starting on gasoline, with quick change-over to full diesel operation, all from the seat.



Self load and run with scrapers of 17-yard capacity—and shift gears on-the-go with the rolling load.



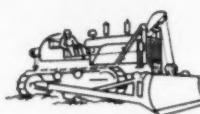
Separate reverse lever for quick change of direction. The tractor moves in the direction the lever is moved.



Cut waste shifting time out of work cycles; provide the best speed for every operation, 8 speeds in each direction!



# INTERNATIONAL



# CHAMPION of Crawlers

"The TD-24's work right along on slopes so steep we have to cut them down before other tractors can climb them even without loads," says Bob Rardin of Rardin Brothers, Akron, Ohio. "They are fast tractors, easy to shift and have plenty of power. This combination really moves dirt." His TD-24 was equipped with a bulldozer.

"It will out-buck any tractor I've ever run," says Harold Wooley's operator, Drain, Oregon, "and sure push dirt up hill—and climb steep grades." His TD-24 works regularly on 30% to 50% grades, building mountain roads.

"I wouldn't have anything else," says another Oregon operator. He works for V. R. Russell &

Sons of Valsetz. "It's sure fine on bulldozing; best dirt mover I ever got hold of."

That's the way owners and operators talk about the International TD-24 Crawler. It has earned their praise, for it does everything any other big tractor can do, *plus many things that NO other tractor can do*. The TD-24's versatility makes it the most useful and profitable earth-mover in any equipment line-up.

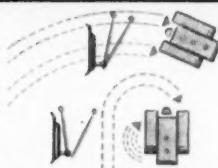
Visit your International Industrial Power Distributor for a demonstration. Then ask yourself how long you can get along without this big red worker and the extra earnings it will produce.

INTERNATIONAL HARVESTER COMPANY  
Chicago

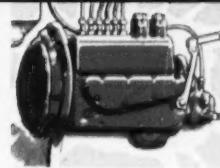
## TD-24 CAN DO FOR YOU



Instant speed change up or down one speed, or stop, without declutching. Planet Power drive does it!



Planet Power steering puts turns with power on both tracks, feathered turns and pivot turns at your fingertips.



Torque Control feature of fuel injection pump increases engine torque when needed to overcome overloads.



Work on grades up to 100%. Its power, ground contact, balance and lubrication are right for licking any grade.

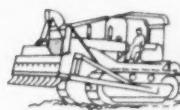
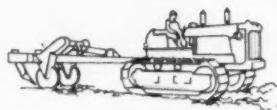


Handle heaviest loads on gradual turns as easily as straightaway because both tracks are powered in the turn.



Push or pull through tough going. The engine delivers extra power when its r.p.m. is pulled down by load.

## INDUSTRIAL POWER

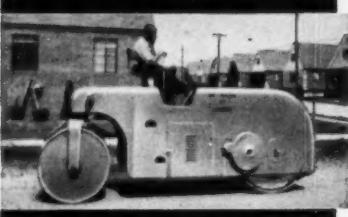


# HUBER

WORLD HEADQUARTERS FOR ROLLERS!



3-4 TON TANDEM



5-8 TON TANDEM



8-12 TON TANDEM



TRENCH ROLLER

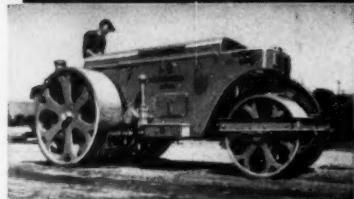
You can look to HUBER as world headquarters for all roller problems. The HUBER line, backed up by 87 years of manufacturing experience, meets every roller requirement.

Quality materials, expert design and experienced craftsmanship give each HUBER the important qualities of long life, dependability and low-cost operation and maintenance.

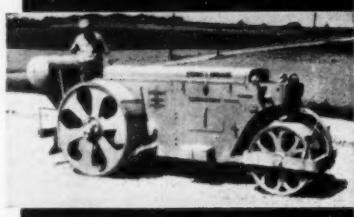
On this page you will find the variety of types, weights and features to meet any roller problem.

For **REAL** satisfaction, dependability and **TRUE** economy over the years, make HUBER your headquarters for rollers.

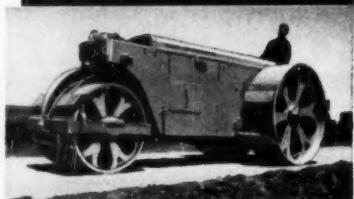
See your HUBER Distributor or write to the factory for detailed information.



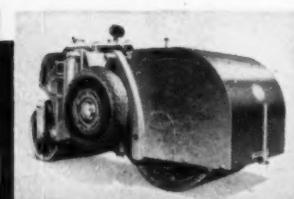
5-6 TON THREE WHEEL



8 TON THREE WHEEL



10-12 TON THREE WHEEL



RETRACTABLE WHEEL ROLLER



COMPACTION ROLLER

## THE HUBER MANUFACTURING COMPANY

Marion, Ohio

See your nearest HUBER Distributor for Maintainers, Rollers and other Road Machinery.

### LEARY & OWENS MACHINERY CO., INC.

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### TRI-STATE EQUIPMENT CO.

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### FLORIDA EQUIPMENT CO. OF TAMPA

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### M. R. HAMILL, INC.

Charleston, W. Va.—Maintainers & Graders Only

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Z. Harte, Ga.



S.A.L. Railway bridge over the Chattahoochee River,  
Omaha, Ga. (1—157-ft. 6-in. Lift Span, 1—154-ft. and  
1—66-ft. approach spans).

## WE'VE BEEN WORKING ON THE RAILROAD

Whatever the future may demand of our country we know that its economic strength and security will depend much upon the capacity and efficiency of Railroad Transportation. To build a Railroad Bridge, therefore, is a source of great satisfaction to Virginia Bridge because we recognize the importance of these strong connecting links to the rapid, dependable movement of heavy traffic.

Only steel strength and stamina can endure the terrific impact of heavy rolling equipment moving at high

speeds—and only steel is suited to the construction of the massive movable spans so often required over navigable waters. Equally adapted to the manufacture and erection of these important rail links is Virginia Bridge unlimited bridge-building experience. Our plants at Roanoke, Va., Birmingham, Ala. and Memphis, Tenn. are conveniently located to serve the Railroads of the South and Southwest to economic advantage.

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### STEEL STRUCTURES — ALL TYPES

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*Welded or riveted, large or small, if it's structural steel  
we welcome your inquiries.*



# Virginia Bridge Company

ROANOKE BIRMINGHAM MEMPHIS NEW YORK ATLANTA DALLAS

UNITED STATES STEEL

# STEADY MAKES **P&H** YOUR BEST BUY

P&H



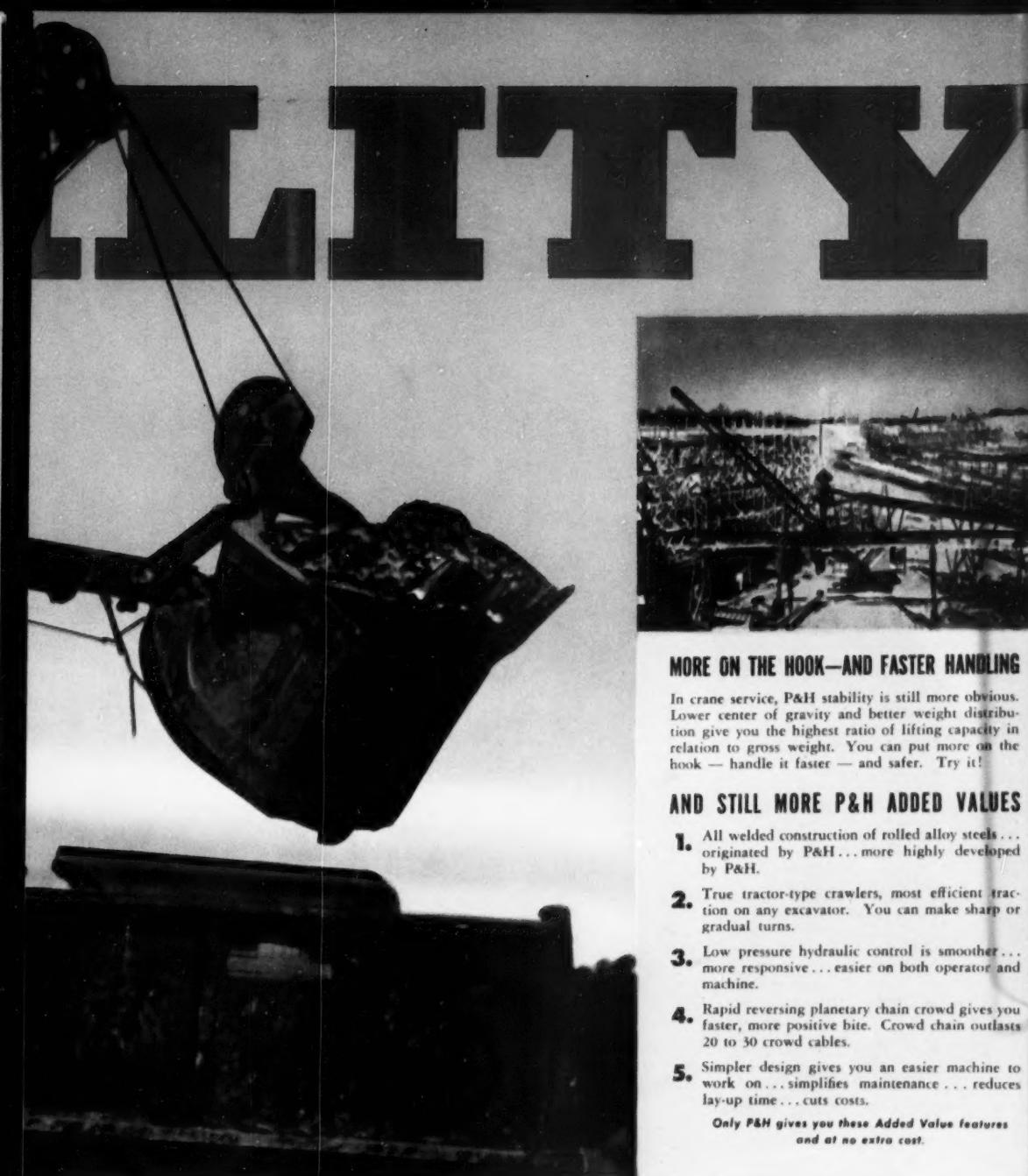
## MORE POWER AT THE TOOTH POINT

Your shovel's work capacity is limited by the maximum power the machine can exert at the dipper teeth without losing its stability. Because P&H gives you greater stability (without excess deadweight) you have more digging power at the tooth point. This gives you more work capacity

—faster cycles at maximum loads—lower costs. Get the proof before you buy your next excavator.

**P&H** EXCAVATORS  
HARNISCHFEGER CORPORATION  
EXCAVATORS - ELECTRIC CRANES - ARC WELDERS - HYDRAULIC HOISTS - WELDING ELECTRODES - MOTORS

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## MORE ON THE HOOK—AND FASTER HANDLING

In crane service, P&H stability is still more obvious. Lower center of gravity and better weight distribution give you the highest ratio of lifting capacity in relation to gross weight. You can put more on the hook — handle it faster — and safer. Try it!

## AND STILL MORE P&H ADDED VALUES

1. All welded construction of rolled alloy steels . . . originated by P&H . . . more highly developed by P&H.
2. True tractor-type crawlers, most efficient traction on any excavator. You can make sharp or gradual turns.
3. Low pressure hydraulic control is smoother . . . more responsive . . . easier on both operator and machine.
4. Rapid reversing planetary chain crowd gives you faster, more positive bite. Crowd chain outlasts 20 to 30 crowd cables.
5. Simpler design gives you an easier machine to work on . . . simplifies maintenance . . . reduces lay-up time . . . cuts costs.

*Only P&H gives you these Added Value features  
and at no extra cost.*

## ASK YOUR P&H DEALER

BLALOCK MACH. & EQUIP. CO.  
Atlanta 2, Georgia

BROOKS EQUIP. & MFG. CO.  
Chattanooga, Tennessee

BROOKS EQUIP. & MFG. CO.  
Knoxville, Tennessee

CROW IRON WORKS  
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DRAINAGE MACH. & SUPPLY CO.  
Fort Pierce, Florida

R. B. EVERETT & CO.  
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FREE STATE EQUIPMENT CO., INC.  
Baltimore, Maryland

HIGHWAY EQUIP. & SUPPLY CO.  
Orlando, Florida

HOBBES EQUIPMENT CO.  
Tyler, Texas

J. B. HUNT SONS  
Raleigh, North Carolina

INDUSTRIAL EQUIP. CO.  
Sumter, South Carolina

JOE MONEY MACH. CO.  
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NEFF-THOMAS MACHINERY CO.  
Miami 38, Florida

PANAMA MACH. & SUPPLY CO.  
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RISH EQUIPMENT CO.  
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# MARION

# 362

## Paves way for new Florida Housing Project

● The MARION Type 362 dragline pictured here handled TWO important parts of a Leach Construction Company contract for a Coral Gables, Florida, housing development.

**FIRST**, it dredged a channel of the Coral Gables canal, frequently encountering unshot shale and rock. It loaded up to 1,000 cubic yards in an 8-hour shift.

**SECOND**, it was easily converted to backhoe service and used to cut ditches and banks. The Leach operator, James F. Fitzpatrick, calls the machine a "fast worker"—ideal for both light and heavy work."

The ability of the MARION 362 to handle many jobs well and get them done quickly and dependably has made this machine a favorite among contractors. **MORE THAN** half a thousand MARION 362's are in service today.

The MARION 362 has many quality features that make it stand-out machine in the 1½ cubic yard size for shovel, dragline, clamshell, crane, backhoe and pile driver service.

Your nearest MARION sales representative or distributor will be glad to give you detailed information about the MARION 362.

# MARION POWER SHOVEL COMPANY Marion, Ohio, U.S.A.

### SEE YOUR MARION DISTRIBUTOR

**OGDEN EQUIPMENT COMPANY**  
2342 Edwards Avenue  
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**HAWKINS EQUIPMENT COMPANY**  
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**MARION POWER SHOVEL COMPANY**  
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Suite 713  
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**LOUISIANA INDUSTRIAL EQUIPMENT  
COMPANY**  
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**RICHMOND MACHINERY & EQUIP.  
COMPANY**  
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**EQUIPMENT SUPPLY COMPANY**  
118-120 S. Campbell  
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**SOUTH TEXAS EQUIPMENT COMPANY**  
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**TOWNSCO EQUIP. COMPANY**  
1700-1708 N. W. Sixth Street  
Oklahoma City, Oklahoma

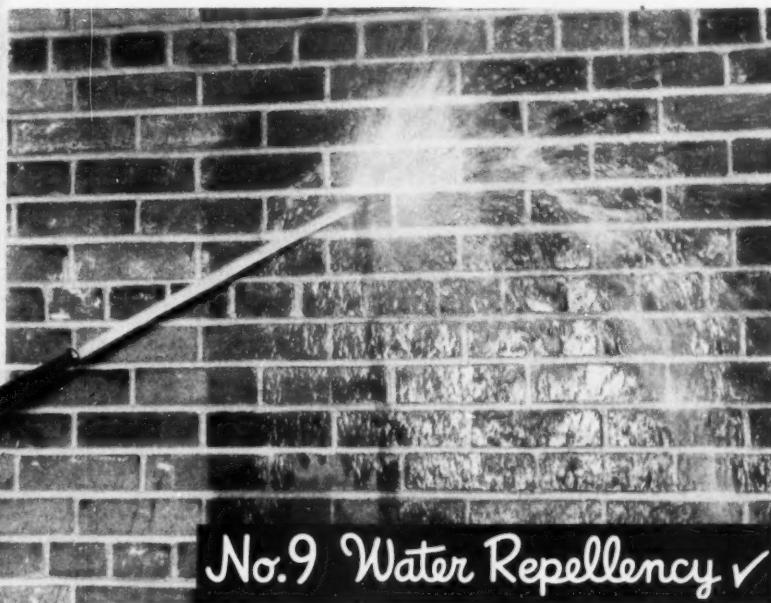
**TOWNSCO EQUIP. COMPANY**  
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The 10 basic requirements of high quality masonry cement

1. Plasticity
2. Body
3. Strength
4. Yield
5. Color
6. Adhesion & Bond
7. Negligible Shrinkage
8. Water retention
9. Water repellency ✓
10. Non-efflorescing

Cumberland gives you

ALL 10!

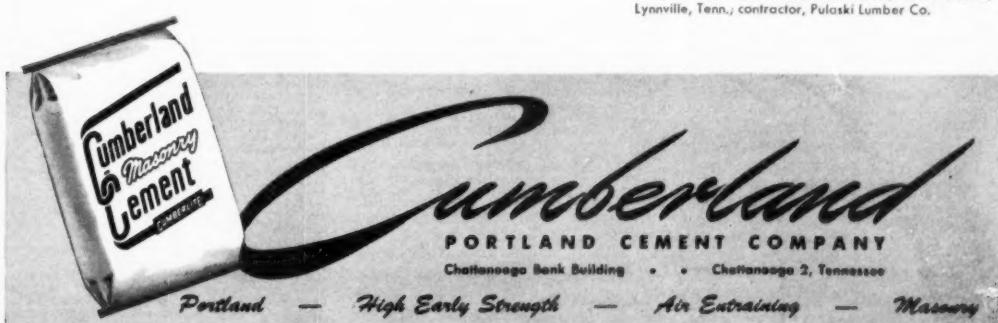


WANT mortar that's *really* water-repellant? Mortar with the absolute *minimum* of leakage in the joints? Then you want Cumberland Masonry Cement. These important protective qualities are built right into the cement itself, giving you strong, tight joints as nearly waterproof as it is possible to make them . . . preventing unsightly staining of masonry surfaces through water leakage.

Every point, every job, shows that Cumberland Masonry Cement with its pleasing light color is *better cement*. That's why every year more and more architects, engineers and masons throughout the South are turning to Cumberland for *better work*.



Cumberland Masonry and Cumberland Portland Cements were used exclusively in construction of this attractive home in Pulaski, Tennessee. Architect, A. F. Scovel, Lynnville, Tenn.; contractor, Pulaski Lumber Co.



Any quantity of Cumberland Masonry Cement will be shipped in mixed carloads with other types of Cumberland Cement.

# Southern Construction Projects

## MISSOURI

(Continued from page 24)

addition to factory and warehouse, \$50,000.

**ST. LOUIS**—Benton County, Parish let contract to Robert Faustus Construction Co. for community building, \$300,000.

**ST. LOUIS**—Louis Miller will construct 3 residences, \$65,000.

**WAVERLY**—Corps of Engineers, Kansas City, let contract to Massman Construction Co., Kansas City, \$400,385, for dike and revetment on Crooked River.

**HEELING**—Livingston County Board of Education plans addition to high school, \$120,348.

## NORTH CAROLINA

**NORTH CAROLINA and VIRGINIA**—Virginia Coastal Highway Corp., N. C., and Coastal Turnpike Authority, Va., received low bids from following for 32.51 mi. highway and structures within State of North Carolina and Proj. 2, 22.79 mi. highway, with structures, within State of Virginia and Proj. 3, 2 bridges and 5 concrete box culverts: Ames & Webb, Inc., and W. H. Scott, Inc., Norfolk, and Franklin, Va., \$3,000,000; Norfolk, Norfolk Co., Norfolk, Va., \$107,911, Item 7—Proj. 2 & 3, and Balleiner Paving Co., Greenville, S. C., \$600,821, base bid, in North Carolina.

**ACME**—Riegel Paper Corp., New York City, let contract to C. M. Guest & Sons, Greensboro, for \$13,500,000 paper mill.

**ALAMANCE COUNTY**—County Board of Education let contract to O. C. Thompson & Sons, Burlington, \$152,995, for Pleasant Grove negro elementary school.

**BURNSVILLE**—Board of Education of Yancey County received low bid from Z. B. Robinson & Son, \$179,365, for South Toe River School.

**CHAPEL HILL**—University of North Carolina has school of nursing, \$228,000.

**CHARLOTTE**—Auditorium Study Committee submitted report to City Council recommending bond issue for \$3,000,000 for municipal auditorium and coliseum on Independence Boulevard.

**CHARLOTTE**—City plans resurfacing 37 streets, \$10,000,000.

**CHARLOTTE**—Duke Power Co. will construct with own forces addition to River Bend steam-electric plant, \$12,000,000, and 130,000 kilowatt addition at Cliffsde.

**CHARLOTTE**—City let contract to Southeastern Construction Co., \$145,782, for additions and alterations to City Police Department.

**DURHAM**—City Council authorized street and sidewalk improvement work, \$380,000.

**DURHAM**—City Council let contract to Nello L. Teer Construction Co., \$310,878, for street improvements.

**DURHAM**—Duke University let contract to H. L. Coble Construction Co., Greensboro, \$552,519, for Elizabeth P. Hanes House for Nurses.

**FOREST CITY**—Rutherford County Board of Education received low bid from C. P. Neal Construction Co., \$199,450, for Graham Town Elementary School.

**FOURTH COUNTY**—Board of Education, Winston-Salem, let contract to Fowle-Jones Construction Co., Winston-Salem, \$203,725, for addition to Mineral Springs School.

**GRAHAM**—Alamance County Board of Education let contract to P. S. West Construction Co., Statesville, \$282,700, for high school.

**GREENSBORO**—West Market Street Methodist Church received low bid from L. B. Galbreath, \$226,282, for educational-recreational building.

**GREENSBORO**—Board of Education of Greater Greensboro School District let contract to Charles W. Angie, Inc., \$191,300, for addition to Washington Street Elementary School.

**HENDERSONVILLE**—Board of Trustees of Hendersonville Graded Schools let contract to F. D. Cline Construction Co., Hendersonville, S. C., \$170,810, for colored school, and to A. H. Gulon & Co., Charlotte, \$247,820, for Edenville school.

**HICKORY**—St. Andrew's Lutheran Church let contract to Herman-Sipe Co., Inc., \$211,363, for church and educational building.

**HIGH POINT**—High Point Weaving Mill, unit of Burlington Mills Corp., has permit for addition, \$20,000.

**HIGH POINT**—Board of School Commissioners let contract to R. K. Stewart & Son, \$325,799, for First Ward Elementary School and William Penn High School.

**HILLSBORO**—Board of Education, Orange County, let contract to Wrenn-Wilson Construction Co., Durham, \$183,135, for Lincoln High School.

**JACKSON COUNTY**—Utilities Commission

authorized Nantahala Power & Light Co. to construct a \$1,224,248 hydroelectric project on the east fork of the Tuckasegee River, to include a dam and power plant.

**JACKSON, HAYWOOD and SWAIN COUNTIES**—Bureau of Public Roads, Gattinburg, Tenn., let contract to Nello L. Teer, Durham, N. C., \$336,405, for Blue Ridge Parkway.

**JEFFERSON**—Board of Trustees of Ashe County Memorial Hospital, Inc., received low bid from North Carolina Smyth Co., Cullowhee, \$259,040, for addition to hospital.

**KINSTON**—Housing Authority let contract to O. L. Shackelford, \$444,000 for low cost housing project.

**KINSTON**—City School Board let contract to O. L. Shackelford, Kinston, \$184,000 for separate physical educational building and alterations to Gralinger High School.

**LAUREL SPRINGS**—City received low bids from the following for waterworks improvements: Section I, Crain & Denbo, Inc., Durham, \$332,890; Section II, plumbing, Robeson Sales Corp.; Section III, heating; Section IV, filter and pump equipment, Crain & Denbo, Inc., Durham, \$92,800; Section V, electric, Triangle Electric Co., \$19,150.

**MAON COUNTY**—Board of Education, Franklin, let contract to William B. Dilley, Silva, combination bid of \$521,000 for Franklin High School, East Franklin Elementary School, Nantahala School and Highlands School.

**MOREHEAD CITY**—State Port Authority, Wilmington, received low bid from T. A. Lovins & Co., Oldham, \$1,000,000 for ocean terminal; L. H. Laddway Contracting Co., Durham, Ga., \$1,497,680, on work less transit shed and 2 storage warehouses and William Muirhead Construction Co., Durham, \$708,000, on transit shed and 2 storage warehouses.

**MORGANTOWN**—Local Government Commission, Raleigh, sold \$400,000 bond issue to Bank of Banking & Trust Co., for water improvements.

**NOBLINA**—Warren County Board of Education received low bid from Coggins Construction Co., Raleigh, \$133,270, for gymnasium-cafeteria.

**PEQUIMON COUNTY**—Board of Education, Union, let contract to O. W. Goodwin, Dunn, \$183,000, for Winfall School.

**RALEIGH**—City plans sewage treatment works, \$145,000.

**RALEIGH**—North Carolina Highway and Public Works Commission received low bid from Hunt Construction Co., Durham, \$355,000, for three buildings.

**RALEIGH**—State Highway Commission received low bids for projects in following counties:

**Warren**—4.12 mi. grad., pav. and struc. on U. S. 158; Brown Paving Co., Lexington, \$123,000.

**Guildford and Rockingham**—14.4 mi. pav. on N. C. 68; Thompson-Arthur Construction Co., Greensboro, \$183,059.

**Gaston**—3.72 mi. grad. and struc.; Neal Hawkins, Gastonia, \$74,378 for roadway and \$58,733 for struc.;

**Pamlico**—9.9 mi. hard-surf.; Sam Finley, Inc., Greenville, Va., \$89,604.

**Washington**—9.5 mi. grad. and hard-surf.; Dickerson, Inc., Monroe, \$138,886.

**Washington**—10.5 mi. hard-surf.; Nello L. Teer Co., Durham, \$108,100;

**Columbus**—7.13 mi. grad. and hard-surf.; Zeigler-Cline Construction Co., Fayetteville, \$78,628.

**Washington**—10.7 mi. grad. and hard-surf.; N. F. Eure, Beaufort, \$93,000.

**Nash**—15.2 mi. hard-surf. various roads; Ben B. Propst, Concord, \$51,417.

**Duplin**—12.7 mi. grad. and hard-surf.; Zeigler-Cline Construction Co., Fayetteville, \$143,255.

**Franklin**—3.15 mi. pav.; F. D. Cline Construction Co., Raleigh, \$8,494.

**Johnson**—2.8 mi. grad. and hard-surf.; Brown Paving Co., Lexington, \$101,078.

**Nash**—18.4 mi. grad. and hard-surf.; N. F. Eure, Beaufort, \$138,250.

**Lenoir**—5.94 mi. grad. and hard-surf.; Barrus Construction Co., Kinston, \$39,900.

**Lenoir**—5.84 mi. grad. and hard-surf.; Barrus Construction Co., Kinston, \$43,759.

**Ashe**—2.5 mi. grad. and hard-surf.; Sturtevants to Virginia line; H. R. Stewart & Co., Asheville, \$57,349.

**Alexander**—9.15 mi. hard-surf.; Dickerson, Inc., Monroe, \$58,000.

**Gaston**—7.1 mi. hard-surf. on various roads; Lenderer Brothers, Easl., \$41,150.

**Duplin**—12.7 mi. grad. and hard-surf.; Lenderer Brothers, Easl., \$41,150.

**Cherokee and Macon**—31.6 mi. paving on various roads; Asheville Paving Co., \$60,644.

**Greene**—6.75 mi. grad. and pav.; Wayne Engineering Co., Inc., Mt. Olive, \$59,169.

**Johnston**—12.2 mi. grad. and pav. and struc.; Dickerson, Inc., Monroe, \$334,430.

**Perquimans and New Hanover**—4.3 mi. grad. and struc.; Grannan & Sloan, Inc., Fayetteville, \$146,430.

**Brunke**—6.67 mi. grad. and pav.; J. C. Critcher, Inc., Asheville, \$89,455.

**Columbus**—7.29 mi. pav. on U. S. 76 and N. C. 904; Zeigler-Cline Construction Co., Fayetteville, \$63,754.

**Cumberland**—17.5 mi. hard-surf.; Zeigler-Cline Construction Co., Fayetteville, \$86,890.

**Pender**—12.4 mi. hard-surf.; Towles-Cline Construction Co., Wilmington, \$54,935.

**Guildford**—12.9 mi. grad. and hard-surf. on various roads; A. C. Shearer Co., Chapel Hill, \$230,491.

**Robeson and Montgomery**—9.9 mi. grad. and pav.; Grannan & Sloan, Inc., Fayetteville, \$351,289.

**Cabarrus**—8.2 mi. hard-surf.; Ray D. Lowder Co., Albemarle, \$46,304.

**Mecklenburg**—37.5 mi. pav. on county roads and streets in Davidson and Huntersville; Blythe Brothers Co., Charlotte, \$137,318.

**Montgomery**—27 mi. hard-surf.; Shepherd Construction Co., Inc., Hickory, \$87,083.

**Richmond**—45.9 mi. hard-surf.; Shepherd Construction Co., Inc., \$135,464.

**Rowan**—14.3 mi. hard-surf. various roads; Propst Construction Co., Inc., Concord, \$67,314.

**Union**—18.2 mi. hard-surf.; Propst Construction Co., Inc., \$65,901.

**Wikes**—6.5 mi. grad. hard-surf. and struc.; J. C. Critcher, Inc., Asheville, \$98,297 for roadway and John H. Brinkley, Thomasville, \$35,638, for struc.:

**Wikes**—4.63 mi. grad., hard-surf. and struc.; J. C. Critcher, Inc., \$112,008.

**Wikes**—6.1 mi. hard-surf. and struc.; Setzer Construction Co., Inc., Hickory, \$62,262.

**Cleveland**—9.5 mi. hard-surf. and culverts; Brown Paving Co., Lexington, \$64,133.

**Iredell**—9.5 mi. hard-surf.; W. E. Graham & Sons, Cleveland, \$55,650.

**RALEIGH**—State Highway Commission received low bid for project in following county:

**Johnston**—bridge over Little River; N. E. Brewer Co., Raleigh, \$37,365.

**RALEIGH**—State Highway Commission received low bid for project in following county:

**Granville**—bridge over Tar River; Claude C. Setzer, Inc., Oxford, \$46,380.

**REEDSVILLE**—School Board received low bid from L. B. Gallimore, Greensboro, \$625,000, for three schools.

**ROBESON COUNTY**—County Board of Education let contract to Norman A. Smyth Co., 40½ S. Tryon, Charlotte, \$175,500, for Prospect Indian School.

**SALEM**—Board of Trustees, Rowan Memorial Hospital, Inc., let contract to L. S. Bradshaw & Sons, E. Franklin at Southern R. R., \$738,500, for additions and alterations to Rowan Memorial Hospital.

**SHELBY**—Local Government Commission, Raleigh, sold \$750,000 bond issue for school building to First Securities Corp. and Byren & Phelps, Inc.

**ST. JAMES**—Jackson County Board of Education let contract to Z. B. Robinson & Son, Asheville, for Scotts Creek School, \$184,750.

**TARBORO**—Tarboro City Schools received low bid from D. J. Rose & Son, Rocky Mount, \$166,200, for gymnasium and Industrial arts building.

**WEST RALEIGH**—West Raleigh Presbyterian Church received low bid from Crayland Construction Co., \$184,603, for church and educational building.

**WILMINGTON**—Belk-Williams Co. let contract to J. A. Jones Construction Co., Charlotte, for department store, \$1,000,000.

**WILSON COUNTY**—Board of Education, Wilson, let contract to A. L. Long, Inc., Goldsboro, for school projects, \$78,850.

**YANCEY COUNTY**—French Broad Electric Membership Corp., Marshall, asked Power Commission for permit for hydro electric plant on Cane river; to include dam and power house, \$5,011,000.

## OKLAHOMA

**OKFUSKEE**—Okfuske County Commissioners tentatively let contract to Hudgens Construction Co., McAlester, \$199,687 for County Hospital.

**Senate**, Washington, D. C., approved \$17,700,000 for flood control projects.

**ARDMORE**—State Board of Affairs, Oklahoma City, received low bid from Denney Construction Co., Oklahoma City, \$202,492 on addition, \$29,069 for superintendent's home, and combination bid of \$241,627 for work at Veterans Home.

**BETHANY**—Children's Convalescent Home plans 15-bed addition, \$136,000.

**COALGATE**—Coal County Commissioners plan 16-bed Coal County Community Clinic, \$112,661.

**ENID**—St. Mary's Hospital plans 75-bed addition, \$891,620.

**EDMISTON**—Cimarron Electric Cooperative plans \$205,000 distribution line.

**LAWTON**—City approved issuance of \$590,000 bond issue for enlargement and extension of water trunk lines.

**LAWTON**—City approved issuance of \$442,000 bond issue for enlargement of sewer disposal plant; \$289,785 bond issue for enlarging and improving sanitary sewer system; \$98,000 for improvement of storm sewer system.

**MCALISTER**—City let contract to J. Bristoe, Stillwater, \$191,198 for improvements to Municipal Airport.

**NORMAN**—State Board of Public Affairs, Oklahoma City, plans nurses quarters and classrooms for State Hospital, \$360,000.

**NORMAN**—State Board of Public Affairs, Oklahoma City, plans employees dormitory, Central State Hospital, \$450,000.

**OKLAHOMA CITY**—University Board of Regents, Norman, to release plans for bids, for 8-story and basement addition to University Hospital and Psychiatric Hospital, \$1,000,000.

**OKLAHOMA CITY**—National Casket Co. plans building, \$100,000.

**OKLAHOMA CITY**—Liberty National Bank let contract to Manhattan Construction Co., Muskogee, for remodeling Apec Tower into bank, \$1,500,000 to \$1,750,000.

**OKLAHOMA CITY**—Veterans Administration, Construction Service, Washington, D. C., let contract to Robert E. McKee, Dallas, Texas, \$7,024,000 for Veterans Hospital buildings and utilities.

**OKLAHOMA CITY**—Roosevelt Nicholson will construct 9 residences & attached garages, \$67,500.

**OKLAHOMA CITY**—University Board of Regents has working drawings in progress for 8-story and basement addition to University Hospital and Psychiatric Hospital, \$1,000,000.

**OKLAHOMA CITY**—Pasteur Medical Bldg. let contract to Harmon Construction Co. for medical clinic, \$700,000.

**OKLAHOMA CITY**—Veterans Administration, Construction Service, Washington, D. C., let contract to York Corp., Philadelphia, Pa., \$69,203 for refrigerating equipment for Veterans Administration Hospital.

**OKLAHOMA CITY**—State Highway Department received low bids for projects in following counties:

**Okmulgee**—U. S. 75, 2,392 mi. 8-in. conc. paving, 2-in. grav. shoulders; Dainger & Brooks, \$135,000.

**Pittsburg**—0.322 of a mi. grad. drain, 24-ft. roadbed, 6-in. stab. aggre. base, 20-ft. bitum. pavr., primed shoulders, 3-span 150-ft. I-beam bridge at Blue Creek; O. R. Gragg, Henryetta, \$42,247.

**Airair**—U. S. 59, 2,066 mi. 9-in. stab. aggre. base, 20-ft. bitum. pavr.; H. D. Youngman, Black Spring, \$120,689.

**Pittsburg**—SH 31, 7,582 mi. grad. drain, 26-ft. roadbed, 9-in. stab. aggre. base, 24-ft. bitum. pavr., primed shoulders; Park-Ward Co., \$204,350; SH 31, 1,188 mi. same type, \$30,575.

**McCurtain**—SH 31, 6,984 mi. grad. drain, 26 ft. roadbed, 3-conc. culverts; Cohenur Construction Co., Ardmore, \$78,140; SH 21, 6,956 mi. 9-in. stab. aggre. base, 22-ft. bitum. pavr.; Cohenur Co., \$129,307.

**Bran**—SH 48, 5,362 mi. grad. drain, 32-ft. roadbed, 3-in. grav. surf.; G-I Construction Co., Meeker, \$72,635; SH 48, 5-span 300-ft. I-beam bridge and 3-span 12-ft. I-beam bridge at Blue River; Duard Pyle, \$83,058.

**Carter**—6,760 mi. grad. drain, 26 ft. roadbed, 5-in. grav. surf.; Blackburn Construction, \$40,000.

**Noble**—SH 15, 0.443 of a mi. grad. drain, 5-span 32-ft. I-beam bridge at Rock Creek; G-I Construction Co., \$83,381; SH 15, 5,950 mi. grad. drain, 26 ft. roadbed; Clark Construction Co., Pawnee, \$56,825; SH 15, two 3-span 120-ft. I-beam bridges at Petit and Branch Creek, 1 culverts, 0.061 of a mi.; Morris Blackwell Co., \$78,254.

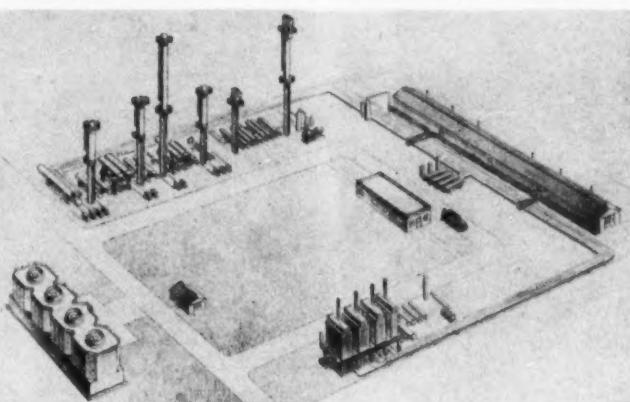
**McCurtain**—SH 87, 2,515 mi. grad. drain, 9-in. stab. aggre. base, 22 ft. bitum. pavr. and 0.383 of a mi. 7-in. conc. pavr.; Myron Grosselose, Bethany, \$159,507; SH 87, 2-span 73 1/2-ft. I-beam span bridge, conc. culvert; Sooner Construction Co., Muskogee, \$11,563.

**Hughes**—SH 9, 6,174 mi. 9-in. stab. base, blended rock asph. pavr., primed shoulders; Park-Ward Co., \$222,274.

**McClain**—SH 9, 5,053 mi. grad. drain, 36 ft. roadbed, stab. aggre. base, blended rock asph. pavr., primed shoulders; Smith Brothers, \$261,733.

**Breckham-Boger Mills**—SH 73, 6,873 mi. grad. drain, 34-ft. roadbed; G. E. Keck, \$78,328; SH 73, 3-span 130-ft. and 3-span

## Mathieson Starting \$17,000,000 Project



**M**ATHIESON Hydrocarbon Chemical Corp., recently organized by principals of the Tennessee Gas Transmission Co. and Mathieson Chemical Corp., is preparing to start construction on its \$17,000,000 organic chemical and petroleum products plant on a 1,500-acre site at Brandenburg, Ky., about 35 miles down the Ohio River from Louisville.

Engineering and construction are being handled by E. B. Badger & Sons Co., of Boston, Mass. Stone and Webster Engineering Co., holder of the contract for a \$12,000,000 plant to extract and recover liquid hydrocarbons from natural gas flowing through the Tennessee Gas Transmission pipeline sixty-five miles away, will collaborate on certain phases of the Brandenburg project.

A \$1,300,000 pipeline to connect the Mathieson plant, which actually is to be located at what is known as Doe Run, near Brandenburg, with the Tennessee Gas Transmission stripping plant to be erected at Gabe, near Greensburg, in Green County, is yet to be placed under contract, according to Mathieson spokesmen.

The Mathieson operation will consist principally of a chemical plant, including a fractionation unit, and a chlorine plant. The mixed hydrocarbon stream to be purchased from Tennessee Gas Transmission Co. will be pumped through the pipeline to the fractionation unit where it will be separated into ethane cracking stock, commercial propane and butane and 12-pound natural gasoline.

The ethane cracking stock will be converted to ethylene and this, with chlorine from the chlorine plant, will be manufactured into marketable chemical products. Liquefied petroleum gas, in the form of the propane and butane, and the natural gasoline, will be marketed in their original forms. There will be a small amount of kerosene residue.

Conventional cracking methods will be used to extract the ethane and convert it into ethylene. Separation of the remaining hydrocarbons will be done by fractionation methods. Ethylene glycol and ethylene oxide will be made by the chlorhydrination process which has been

practiced commercially in this country and abroad for many years.

Chlorhydrination requires substantial quantities of lime. To assure a continuous supply, the Hydrocarbon Chemical concern has consummated a contract with its parent Mathieson corporation by which certain Saltville, Va. property will be made available for erection of a \$6,000,000 plant of sufficient size to meet its commercial liquid chlorine needs. The Chemical Plants division of the Blaw-Knox Co., Pittsburgh, have the contract for both the engineering and procurement.

The Brandenburg facilities in Kentucky will include those for furnishing steam to the production units, a waste disposal unit, laboratory, an office building, shops, warehouses and transportation equipment. Electric power will be purchased. Laboratory facilities will be provided for process control and product testing, as will be a cafeteria and fire protection system.

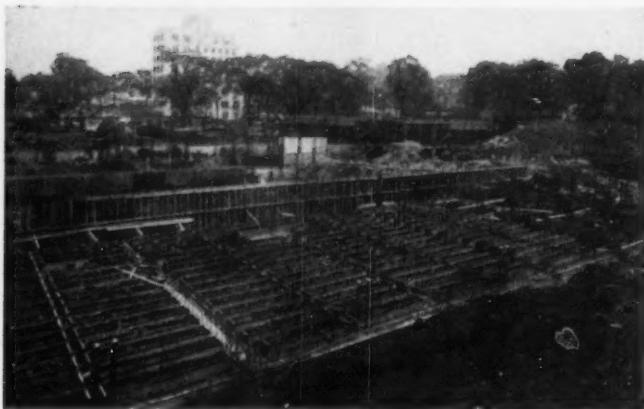
Production of liquefied petroleum gas and natural gasoline is expected to start not later than September of 1951, with production of the chemical output beginning about three months later. These in addition to the ethylene glycol and oxide will include polyglycols and ethylene dichloride.

Officers of the Mathieson Hydrocarbon Chemical Corp. are Thomas S. Nichols, president and director; John C. Leppard, executive vice president and director; Carl F. Prutton, vice president and director; Russell Hopkinson, administrative vice president and Stanley deJ. Osborne, secretary and treasurer. In addition to the president and vice presidents, the directors are: Louis Cox, J. J. King, R. G. Rice, and H. Gardiner Symonds.

The system of Tennessee Gas Transmission Co., from whom the hydrocarbon stream will be purchased, extends from sources of supply in Texas and Louisiana through Arkansas, Mississippi, Tennessee and Kentucky into West Virginia, for a total of 1,364 miles. The existing system has a daily delivery capacity of 750,000 m. c. f. Additional facilities will increase this to 1,060,000 m. c. f. per day.

(Continued on page 38)

# Southern Construction Projects



**Above**—\$6,000,000 Veterans Hospital under construction at Mobile, Ala. Thompson & Street Co. is the contractor. The project is under supervision of the Mobile Engineer Office.

## OKLAHOMA

(Continued from page 37)

100-ft. I-beam bridges, 2 conc. culverts; R. R. Twy Co., \$79,872.

**Craig**—SH 10, 0.283 of a mi. grad. drain, 36-ft. roadbed, conc. pvt.; Anchor Construction Co., Muskogee, \$45,016.

**POONCA CITY**—First Presbyterian Church plans building, \$361,400.

**PRYOR**—State Board of Affairs, Oklahoma City, received low bid from L. E. Smith, \$237,710 for 2 dormitories, Whitaker State Home for White Children.

**SEMINOLE**—City Hospital Board received low bid from Cowen Construction Co., Shawnee, \$199,706 for Memorial Hospital addition.

**SHAWNEE**—Roach Brothers plan funeral home, \$60,000.

**STILLWATER**—Stillwater Municipal Hospital plans 17-bed addition, \$90,000.

**STILLWATER**—City received low bid from DeWitt Co., 213 Tuloma Bldg., Tulsa, \$125,900 for administration building, Municipal Airport.

**STILWELL**—City plans 18-bed Health Center, \$142,500.

**SUPERIOR**—State Board of Affairs, Oklahoma City, plans construction of five 1-story units, \$377,000; men's building, \$358,000; special treatment buildings, \$363,000; five 1-story units for women, \$377,000; convalescent ward addition, \$149,292; Western State Hospital.

**TALIHINA**—State Board of Public Affairs, Oklahoma City, plans 66-bed addition, \$405,206; 45-bed addition, \$323,750; kitchen and dining room, \$97,300. Eastern Oklahoma Tuberculosis Sanatorium.

**TULSA**—City Park Board has plans in progress for administration building, wing and hangar, Municipal Airport, \$165,000.

**TULSA**—Hillcrest Medical Hospital plans 125-bed addition, \$1,800,000.

**TULSA**—City sold to First National Bank of Chicago and Assocs., \$500,000 limited access facilities bond issue.

**TULSA**—City sold \$500,000 bond issue to syndicate headed by First National Bank and Trust Co., Tulsa First National Bank, Chicago and Evan L. Davis, for 51st street urban highway routing.

**TULSA**—Virginia Corp., plans apartment, \$80,000.

## SOUTH CAROLINA

**ABBEVILLE**—Little River Electric Cooperative Inc. let contract to Arlich Electric Co., \$93,094 for REA lines.

**AIKEN**—Aiken County School Board received low bid from George L. Fuller Construction Co., New York City, N. Y., at \$67,140 for grade school, \$10,000 for Herbert Stieffel, \$42,100 for elementary school.

**ANDERSON**—Haworth Mill plans addition, S. McDuffle St. Ext., \$90,000.

**CHARLESTON**—Hewitt Oil Co. received low bid from Dawson Engineering Co., \$64,650 for supermarket.

**CHARLESTON**—Medical College of the State of South Carolina, let contract to Chitwood Housewrecking Co., Columbia, for clearing site for \$9,000,000 teaching hospital.

**CHARLESTON**—Dotteler Engineering Co., have contract at \$88,000 for maintenance and preservation of Charleston Shipbuilding and Drydock Co.'s shipbuilding plant.

**CHARLESTON**—South Carolina Power Co. let contract to Standard Construction Co., Columbus, Ga., \$407,000 for bldg. extension for third unit, Plant Haggard, unit, \$5,475,000.

**CHARLESTON**—Governor Yeamans Apartments, Inc. let contract to Ruscon Construction Co., for apartment in Yeamans Park, \$617,000.

**COLUMBIA**—State Highway Commission received low bid for project in following county.

**Saluda**—Rt. 43, 280-ft. reinf. conc. bridge over Little Saluda river with 0.458 of a mi. graded and bitum. surfaced approach and 170-ft. reinf. conc. bridge over Richland Creek with 76-ft. untreated timber detour bridge and detour road; Frank W. LaMotte, Columbia, \$78,821.

**COLUMBIA**—State Highway Department received low bids for projects in following county.

**Abbeville-McCormick**—3,692 mi. paving on Rd. 39, 3,577 mi. on Rd. 31 and 5,182 mi. on Rds. 67 and 65; B. L. Jones & Co., Winder, Ga., \$109,612.

**Atlendale**—4,969 mi. pavt. on Rd. 23; 1,426 mi. on Rds. 81 through 84, 98, 100 and 15; 0.997 mi. on Rds. 87 and 96 and 0.315 mi. on Rds. 99 and 105, being streets in Sycamore, Lokey Contracting Co., Austin, Tex., \$76,330.

**Bamberg**—grad. and bitum. surf. 4,068 mi. on Rd. 19; 3,991 mi. on Rd. 23 and 93; 0.692 of a mi. on Rds. 106, 107 and 108, streets in Olar and 0.819 miles on Rds. 109, 110 and 112, streets, E. M. Scott; J. F. Cleckley & Co., Orangeburg, \$85,303.

**COLUMBIA**—State Highway Department let contract for project in following county.

**Florence**—Doc. 21298; Kraft & Newell, \$38,338.

**COLUMBIA**—Olympia School District No. 4 let contract to J. C. Heslep, South Carolina Bank Bldg., \$91,840 for addition to colored school in Olympia Village.

**COLUMBIA**—City received low bid from C. Y. Thomason Co., Greenwood, \$232,364 for water mains.

**COLUMBIA**—Brarlcliffe Apartments let contract to P. S. Cecil, Spartanburg, \$290,495 for 40 apartments.

**COLUMBIA**—City let contract to C. Y. Thomason Co., Greenwood, \$232,364 for water mains.

**COLUMBIA**—State Highway Department let contract for project in following county:

**Marion**—Doc. 34,232.1, etc.; J. M. Barnwell, Sumter, \$71,360.

**COLUMBIA**—State Highway Department let contract for project in following counties:

**Anderson-Oconee**—Doc. No. 4,339, etc.; Harold A. Pickens Construction Co., \$36,379.

**COLUMBIA**—State Highway Department let contracts for projects in following counties:

**Kershaw**—Doc. Nos. 28,277, etc.; Carolina Contracting Co., \$45,938.

**Marion**—Doc. 34,229, etc.; B. H. Goodson, Jr. Construction Co., \$107,370.

**Richland**—Doc. 40,357; Cherokee, Inc., \$121,993.

**CONWAY**—Board of Commissioners of Horry County let contract to Harilee-Quatliebaum Construction Co., Florence, \$123,700 for jail building.

**CRAVEN**—First Baptist Church received low bid from Manor Construction Co., \$148,448 for sanctuary.

**EASLEY**—Commissioner of Public Works let contract to Cole Manufacturing Co., Newnan, Ga., \$71,400 for steel tank and tower.

**FINGERVILLE**—Franklin Process Spinning Mill let contract to G. E. Moore Co., Greenwood, \$65,086 for water and sewerage system.

**FOUR MOULTRIE**—Board of Township Commissioners of Sullivan's Island received low bid from Charleston Contractors, Inc., Agger's Wharf, \$90,000 for rearrangement of sewer system.

**GREAT FALLS**—A. D. Hurst, Chester, received low bid from Builders, Inc., \$75,700 for 10 stores.

**GREAT FALLS**—Chester County Board of Education, Chester, received low bid from M. B. Kahn Construction Co., Columbia, for new high school, \$226,451.

**GREENVILLE**—State Highway Department, Greenville, are planning 3 super-highways for project for extreme upper part of South Carolina. Highway Commission provided \$2,000,000 to start.

**GREENVILLE**—Greenville County Board of Commissioners let contract to Bailey-Brazell Construction Co., \$67,169 for renovation of Greenville County Office Building.

**GREEN**—Victor Monagan, a division of J. C. Evans and Sons, Inc., let contract to Daniel Construction Co., Greenville, for construction of additional building area and installation of new machinery, \$3,000,000.

**KERSHAW**—Second Baptist Church let contract to Manor Construction Co., \$74,200 for building.

**LAURENS**—Henry Laurens Hotel Corp. received low bid from Morris Construction Co., \$299,000.

**PAGELAND**—Lynches River Electric Cooperative plans to lend \$150,000 to members for wiring, plumbing and irrigation facilities in Kershaw, Chesterfield & Lancaster counties.

**SPARTANBURG**—Board of Trustees let contract to General Construction Co., Columbia, \$291,417 for Mary H. Wright Elementary School.

**SPARTANBURG**—Cecil's, Inc., plans office and store bldg., \$120,000.

**SPARTANBURG**—Housing Authority received low bid from Cecil's, Inc., \$1,514,962 for 100-rent housing project, SC-3-2.

**SUMTER**—Coutras and Cirocs let contract to Avery Lumber Co., \$66,418 for commercial bldg.

**WALTERBORO**—Colleton County Hospital Board let contract to George L. Fuller Construction Co., Augusta, Ga., \$669,300 for County Hospital.

**WILLIAMSTON**—Town let contract to Sloan Construction Co., Peoples National Bank Bldg., Greenville, \$82,762 for extensions of sewerage system.

**YORK**—York County Electric Cooperative, Inc., received low bid from Little Electric Co., Hartsville, \$246,439 for 217 miles of new lines and 67,43 miles of conversion.

## TENNESSEE

Senate approved \$100,000 to plan Dover lock and dam on Cumberland River.

**ATHENS**—Athens Stove Co. received low bid from W. E. Hamlin Construction Co., \$202,000 for new manufacturing plant.

**BROWNSVILLE**—Corps. of Engineers, Memphis, let contract to Marcus H. Wilson, Union City, \$50,727, for channel improvements on Nixon Creek.

**CHATTANOOGA**—Chattanooga Gas Co. plans \$1,000,000 expansion program.

**CHATTANOOGA**—Eugene Turner let contract to Verline Construction Co. for new home, \$103,250.

**CHATTANOOGA**—Tennessee Valley Authority plans to advertise for bids on fabrication of steel for \$2,500,000 bridge across Chick-

amazing Dam.

**CHATTANOOGA**—Red Bank Baptist Church let contract to Collins & Hobbs for educational building, \$114,645.

**CLARKSVILLE**—First Church of the Nazarene let contract to Horace Crow for remodeling and additions to church, \$70,000.

**COLUMBIA**—National Carbon Division of Union Carbide and Carbon Corp. plans expenditure of \$5,000,000 for major expansion of electrode plant.

**CONASUGA**—York County Board of Education let contract to J. J. Ward, Sweetwater, \$60,000, for Conasuga School.

**HUNTLAND**—City plans waterworks system, \$125,500.

**KNOXVILLE**—Eastern State Hospital received low bid from Johnson & Willard, \$74,598, for cold storage plant.

**MEPHIA**—Sam Bass will construct shops and theater, \$225,000.

**NASHVILLE**—Department of Highways & Public Works let contracts for projects in following counties:

**Blount**—Proj. F-053-144; Gerald Smith Construction Co., Memphis, \$636,514.

**Carroll**—FI-001-3(15) & (16); Anderson-Gregory Co., Nashville, \$254,208.

**Carroll**—F-047-3(1); Anderson-Gregory Co., \$109,902.

**Hawkins**—F-048-2(1); Gerald Smith Construction Co., \$456,469.

**Montgomery**—F-012-1(1); Sam Finley, Inc., Atlanta, Ga., \$158,088.

**Sullivan**—F-036-2(1); Gerald Smith Construction Co., \$678,374.

**Davidson**—F-014-1(1); McLaughlin & Son, Camden, \$57,134.

**Hancock**—S-236(1); Malone Brothers, Greenville, \$89,914.

**Henderson**—S-806(1); Farris Stafford Construction Co., Adamsville, \$128,911.

**Hickman**—S-6175(1); Marion Construction Co., Nashville, \$125,366.

**Lauderdale**—S-236(1); L & M Construction Co., Memphis, \$45,387.

**McMinn**—S-427(2); C. R. Pickle & Sons, Shelbyville, \$92,563.

**Fentress**—S-424(1); Froggs & Williams, Jamestown, \$43,181.

**Carroll-Henderson**—SAP-788-A; Paul Davis Construction Co., \$70,367.

**Davidson**—SAP-180(1); Warren Brothers Roads Co., Nashville, \$307,531.

**Franklin Coffee**—SAP-782-A; Pittman Construction Co., Atlanta, Ga., \$243,543.

**Robertson**—S-6123(4); Inter-State Construction Co., Nashville, \$50,540.

**Rutherford**—S-6189(2); Robert D. Jones, Murfreesboro, \$10,438.

**Scott**—S-232(1); R. B. Tyler Co., Louisville, Ky., \$82,673.

**Scott**—S-245(1); R. B. Tyler, \$47,396.

**Shelby**—S-8073(1), S-8101(1), S-8103(1) & S-804(1); Lehman-Roberts Co., Memphis, \$175,441.

**Sullivan**—S-2372(2); Bullard Paving Co., Greenville, \$30,284.

**Tipton**—S-8072(1), S-8072(2); Anderson-Gregory Co., Nashville, \$47,587.

**Union**—S-2347(1); R. B. Tyler Co., Louisville, Ky., \$98,370.

**Williamson**—S-6182(1); R. E. Martin, Nashville, \$57,680.

**McNairy**—SAP-533-J; J. B. Michael & Co., Inc., Memphis, \$105,722.

**Martin-Grandy**—SAP-137-F; SAP-171-B, SAP-188-A; SAP-196-A; Wesco Paving Co., Chattanooga, \$270,922.

**Sumner**—SAMP-194-A; Bowyer & Johnson, Jackson, Tenn., \$57,878.

**Carroll**—SAMP-163-B; SAP-789-A; J. B. Michael & Co., Inc., Memphis, \$198,035.

**Obion**—SAP-791-A; R. W. Routon, Nashville, \$41,555.

**Hickman**—SAP-181-B; SAP-508-J; Sam Finley, Inc., Atlanta, Ga., \$208,181.

**Johnson**—R-3374(1); Summers-Taylor Paving Co., Elizabethhton, \$47,950.

**NASHVILLE**—Department of Highways received low bids for projects in following counties:

**Cumberland**—5.8 mi. grad., drain., surf. with crushed stone and 4 bridges on Hwy. 68; R. E. Martin, \$382,161.

**Franklin**—6.6 mi. grad. and drain. and surf. with crushed stone, gravel or chert on Sec. Hwy. 429A; McLaughlin & Sons, Camden, \$525,116.

**Grundy**—grad., drain. and surf. with crushed stone, section of Hwy. 4324; John L. Brinkley, Shelbyville, \$56,828.

**Loudon**—7.4 mi. grad., drain. and surf. with crushed stone, gravel or chert on Hwy. 2429; Harrison Construction Co., Maryville, \$87,478.

**McMinn**—5.3 mi. grad., drain. and 1 bridge and surf. with crushed stone, gravel or chert on Hwy. 39; B. G. Young & Sons, Johnson City, \$169,646.

**Bradley**—Fed. Sec. Rt. 4308 to Rt. 2, 1.7 mi.,

4.3 mi., 9.7 mi. and 0.8 mi.; Combs Construction Co., Chattanooga, \$662,200.

**Polk**—Fed. Sec. Rt. 4313, 7.2 mi., Rt. 40, 3.15 mi.; Adams Construction Co., Johnson City, \$47,006.

**Bledsoe**—Rt. 30, 0.15 mi. from south Griffith school, 7.8 mi.; C. R. Pickle & Son, Shively, \$48,517.

**Pike**—0.15 mi.; Gailatin Paving Co., Gailatin, \$26,530.

**Grandy**—1.6 mi.; Brown Brothers, Chattanooga, \$42,893.

**Marion**—8.2 mi.; Coombs Construction Co., Chattanooga, \$35,095.

**Bedford**—2.8 mi., 4.9 mi.; C. R. Pickle & Sons, \$63,362.

**Rome-Morgan-Scott**—8.1 mi., 4 mi., 1.5 mi., 3 mi. and 2 mi.; A. B. Long Construction Co., Harriman, \$97,685.

**Davidson**—grad., drain., pavt. with conc. and bitum. materials and curb, sidewalks and storm sewer on State 11; J. B. Michael & Co., Memphis, \$742,230.

**Hamilton**—grad., drain. and pavt. with conc. and bitum. materials on State 1; Bowyer & Johnson, Jackson, \$87,143.

**Carter**—3 projects; Summers-Taylor Paving Co., Elizabethhton, \$45,456.

**Washington**—3 projects; Adams Construction Co., \$53,930.

**Hawkins**—3 projects; Bullard Paving Co., Greenville, \$78,578.

**Johnson**—3 projects; Summers-Taylor Paving Co., \$47,628.

**Hamilton**—4 projects; Brown Brothers, Chattanooga, \$74,831.

**Hamilton**—6 projects; R. B. Tyler Co., Louisville, \$36,754.

**Brown**—grad. and drain., 2 bridges and crushed stone surf. of Sec. 2410; Harrison Construction Co., Maryville, \$164,387.

**Hamilton-Marion**—grad. and drain. and 2 bridges crushed stone surf. on State 134; R. E. Martin, Nashville, \$119,862.

**Washington**—tar prime and surf. with bitum. materials; Summers-Taylor Paving Co., Elizabethton, \$45,754.

**NASHVILLE**—State Building Commission plans \$6,000,000 State Office Building.

**NASHVILLE**—Baptist Sunday School Board let contract for nine-story addition to board building, \$2,000,000.

**NASHVILLE**—Robert Orr & Co. plans government building let contract to W. F. Holt & Sons for national headquarters building, \$801,838.

**OK RIDGE**—U. S. Atomic Energy Commission let contract to John A. Johnson & Sons, \$279,928, for experimental research building, Oak Ridge National Laboratory.

**OK RIDGE**—U. S. Atomic Energy Commission let contract to J. W. Taylor Co., Inc., Dallas, Tex., \$2,477,078, for isotope research and semi-works Bldg. No. 2, Oak Ridge National Laboratory.

**OK RIDGE**—U. S. Atomic Energy Commission announced a sub-contract to Gustav Hirsch Organization, Inc., Columbus, Ohio, \$10,374,000, for an electrical substation.

## TEXAS

State Highway Commission, Austin, let contracts for projects in following counties:

**Fayette**—Proj. S-1383(1), Hwy. FM 955, 4.689 mi. grad., str., flex. base, and 1-course surf. treat.; M-J Construction Co., Inc., P.

0 Box 111, Beeville, \$44,031.

**Navarro**—C-163-2, Hwy. SH 31, 0.588 mi. conc. pavt. widening; North Construction Co., P. O. Box 531, Ft. Worth, \$48,276.

**Bell**—Proj. F-40(13), Hwy. SH 30, 12.317 mi. flex. base and hot mix asph. conc. pave.; Public Construction Co., P. O. Box 380, Denton, \$181,379.

**Denton**—Proj. C-81-3-10, Hwy. US 377, 2,603 mi. grad., str., stab. and asphalt concrete pavt.; Spencer Construction Co., P. O. Box 487, Carrollton, J. B. Clardy Construction Co., Box 7024, Sylvania, Ft. Worth, \$631,204.

**Coleman**—R-1104-1-1, R-889-1-2, Hwy. FM 1026 & 366, 9.162 mi. grad. str., stab. flex. base, and 1-course surf. treat.; A. L. Bucy, 804 Avenue I, Brownwood, \$163,363.

**Burton**—R-140-3-1, Hwy. FM 243, 5.412 mi. grad., str., foundation course and 2-course surf. treat.; M. B. Killian & Co., Inc., P. O. Box 1981, San Antonio, \$100,468.

**Bell**—R-1308-1-1, Hwy. FM 1123, 12.250 mi. grad., str., stab. base and 1-course surf. treat.; Thomas & Ratliff, Rogers, \$100,000.

**Van Zandt**—S-190(1), Hwy. FM 1224, 15.807 mi. grad., str., stab. foundation course and 1-course surf. treat.; Schweppe Brothers, 6633 W. Commerce St., San Antonio, \$103,932.

**Liberity**—R-762-2-1, Hwy. FM 1409, 6.358 mi. grad. and str., flex. base and 1-course surf. treat.; Holbrook & Graves, Dayton, \$94,186.

**Polk**—R-1408-1-1, Hwy. FM 1276, 10.997 mi. grad., str., flex. base and 1-course surf. treat.; Campbell & Kay, P. O. Box 836, Tyler, \$136,212.

**Million**—S-692(2), Hwy. FM 486, 13.611 mi. grad., str., flex. base and 1-course surf. treat.; T. E. Sanderford, P. O. Box 38, Belton, \$125,824.

**Collins**—V-1160-1-1 & V-1139-1-2, Hwy. FM 877 & 813, 14.484 mi. grad., drain, str., & stab. foundation course; H. L. Lacy Co., 5630 Yale Blvd., Dallas, \$137,595.

**Collin**—R-1012-3-1, Hwy. FM 981, 7.305 mi. grad., str., stab. foundation course & 1-course surf. treat.; R. W. McKinney, P. O. Box 190, Nacogdoches, \$154,633.

**Comal**—S-845-1-1 & S-845-1-2, Hwy. FM 922, 10.346 mi. grad., drain, str., flex. base and 1-course surf. treat.; Uvalde Construction Co., P. O. Box 3027, Dallas, \$100,255.

**Atascosa**—M-328-3-6, R-853-3-1, & R-1011-2-1, Hwy. SH 97, FM 1334 & 1335, 3.440 mi. grad., str., flex. base and 2-course surf. treat.; Kilian-House Co., P. O. Box 1981, San Antonio, \$42,712.

**Lubbock and Ochiltree**—R-1337-1-1 & R-790-1, Hwy. FM 1265 & 1267, 10.532 mi. grad., drain, str., flex. base and 1 and 2 course surf. treat.; Bell, Braden, Barker & Gilvin, Inc., Herring Hotel Bldg., Amarillo, \$121,710.

**Elli**—V-1139-1&2-1&1, Hwy. FM 813, 9.648 mi. grad., str., stab. foundation course; P. O. Box 3146, Westview Sta., Waco, \$78,455.

**Lavaca**—S-1385(1), Hwy. FM 351, 7.182 mi. grad., str., road-bed treat. and 1-course surf. treat.; Kilian-House Co., P. O. Box 1981, San Antonio, \$102,964.

**Elli**—S-1448(1) & S-1449(1), Hwy. FM 984, 985 & 813, 16.273 mi. grad., drain, str., road-bed treat. and 1-course surf. course; H. L. Lacy Co., 5630 Yale Blvd., Dallas, \$203,870.

**Tyler and Zavala**—R-1230-1-1, V-1167-1-1, R-37-12-1, Hwy. FM 1022, 1052 & 1436, 10.286 mi. grad., drain., str., flex. base and 1-course surf. treat.; J. W. Perry, 501 Insur-

(Continued on page 48)

*Below—St. John's Hospital, Springfield, Mo. Maguolo & Quick are the architects-engineers. McGough Brothers, of St. Paul, Minn. are the contractors.*



# Equipment and Material Makers' News

## Caterpillar Announces New Diesel Tractor Wagons

Two new high-speed, long-haul and high-capacity earthmoving machines have been announced by Caterpillar Tractor Co., Peoria, Ill. The new units, a four-wheel diesel tractor-wagon combination, the "Cat" DW20 tractor with W20 wagon; and the powerful two-wheel diesel prime mover, the "Cat" DW20 equipped with the No. 21 scraper, are scheduled for production late this fall.

With the announcement of these high-speed units, Caterpillar Tractor Co. becomes the only manufacturer to offer standardized equipment for zoned operations. Machines now available include the high-speed, rubber-tired, large-capacity units for long haul and pusher loading operations; has track-type tractor and scraper units; and units for rough ground conditions that require power in place of speed; track-type tractor and bulldozer units where traction is needed for leveling.



Above—The Caterpillar DW21 and No. 21 Scraper. Its prime mover has the new six-cylinder "Cat" diesel engine, with its 275-horsepower peak capacity at 2,000 r. p. m.

spreading and for pioneering work. These machines, combined with the power zone compressors, shovels and draglines powered by "Caterpillar" diesel engines, complete the standardized zone package tailored to meet the needs of contractors for any job.

In addition to the W20 wagon, the four-wheel DW20 tractor will also be available with the No. 21 scraper and the No. 208 bulldozer. The new No. 27 rear double-drum control unit will be offered to operate the bulldozer.

Both the DW20 and DW21 prime movers have the new six-cylinder "Cat" diesel engine rated at 275 horsepower peak capacity at 2,000 r.p.m. and 225 horsepower at 1,900 r.p.m. available at the flywheel. Testing was conducted in accordance with the American Society of Mechanical Engineers Power Test Codes.

The new engine has a 5% by 6½-in bore and stroke with 743 cubic inch piston displacement. A governor is provided to control low idle speeds and to prevent over-speeding of the engine. All working speeds are controlled by means of the two-speed clutch.

Each unit has the "Caterpillar" constant mesh spur and helical gear transmission, pressure lubricated, and a 16-inch diameter double plate clutch with semi-metallic friction surfaces. It is foot-operated with air power booster. Each unit has a full floating 4½-inch diameter rear axle.

An independent two-cylinder gasoline starting engine with a simple six-volt electric starting system is provided as standard equipment.

## "Beat Back the Snow"

City, County and State highway departments and road commissions, as well as individual contractors responsible for snow removal operations within their areas, are invited to enter in the 16-page illustrated booklet, "Beat Back the Snow With Caterpillar Equipment."

For the past two years Caterpillar Tractor Co., Peoria, Ill., has sent photographers into those areas where snowfall has been heavy and at times disastrous. Under actual working conditions, these photographic scenes show how snow removal equipment and snow removal equipment keep the nation's highways, farm-to-market roads, and city streets open to traffic during the winter months.

## New Wayne Crane Shovel

A new heavy-duty Wayne Crane Model 20 has been announced by the Wayne Crane Division of American Steel Dredge Co., Fort Wayne, Ind. The ½-yard shovel-crane has a 10-ton lifting capacity with extended outriggers and auxiliary counterweight and is self-propelled and rubber-moulted. The lifting weight of 16,000 pounds as a shovel seems to indicate extra-duty construction for a ½-yard machine. The Model 20 is easily convertible to all front-end attachments. A single engine, gasoline or diesel, supplies motive and operating power.

The Model 20 travels, lifts, booms and swings simultaneously or independently. Front-end attachments can be swapped to provide equal stability while lifting or digging even on rough terrain. Full 360° operation, 7-foot-8-inch wheelbase and short turning radius facilitate operations in "tight" spots. Mounted on four sets of dual pneumatic tires, the new Model 20 travels at speeds up to 15 m.p.h.

## Heil Appoints Director of Industrial Relations

Keeping pace with an expanding economy, The Heil Co., Milwaukee, has added to its personnel and sales organization. The end in view is to continue the steady growth Heil has experienced since 1901—growth from three to almost 3,000 employees.

First of the new appointments is G. MacDonald, to Heil as director of industrial relations. Mr. MacDonald is former Commissioner of the U. S. Mediation and Conciliation Service in Milwaukee. For the past five years he directed industrial relations at Geuder, Faeischke and Frey Co., Milwaukee.

The next move in Heil personnel relations was the inauguration of a 15-month training program designed to give them insight into engineering, sales and administrative developments. The program will acquaint them with every Heil division and prepare them for work in the field.

## Robins Vibrating Machines

Two vibrating machines, incorporating new principles for producing vibratory motion, have been announced by the Robins Conveyors Division, Hewitt-Robins, Inc., Passaic, N. J.

The first is a Vibra-Feeder employing mechanical (rather than electro-magnetic) means of operation. It is claimed that this method eliminates a great many parts, some of which require costly maintenance. Only two amperes-draw is required from its 1-2 horsepower motor. It is fully described in Bulletin No. 134.

The second is a Vibra-Veyor which produces balanced mechanical operation without counterweights. One unique feature claimed for this unit is the ability to produce from lengths up to 200 feet activated by a single vibrator. It is described and illustrated in Bulletin No. 135.

Below—This 275-horsepower General Motors diesel engine boosted the Detroit Diesel Engine Division's overall production above the 46,000,000-horsepower mark. Much of this power has gone into construction and roadbuilding equipment throughout the world.



## Made Assistant Manager of Sales Engineering

Appointment of H. J. Hunkle, Jr., as assistant manager of sales engineering division, Caterpillar Tractor Co., Peoria, Ill., has been announced by H. H. Howard, director of sales.

A native of Newark, N. J., Mr. Hunkle attended Lehigh University and after a background of 11 years' experience in the diesel field, joined Caterpillar in 1947.

## Q-Floor Estimates

A new vest-pocket-size booklet, 18-90 UF, for architects, engineers and electrical contractors entitled "How to Wire and Estimate Q-Floors" is available from General Electric's construction materials department. Estimating the installation of Q-Floor wiring includes the mechanics of the actual job take-off and the estimated man-hour units of labor. Illustrations and tables are provided.

## The SewerRoder

A new power machine which makes possible important economies by performing mechanically all the operations of rodding a sewer has been announced by Flexo-rod Power-Rod Equipment Co., Los Angeles, Calif. The SewerRoder is the machine rod, rotates special flexible steel rods, pushes the rods, pulls the rods and tugs back loads, requiring only one man and a helper for operation. It can be operated at speeds up to 100 feet per minute. An accurate footage meter makes it possible to keep track of the location of the tool in the line at all times.

Requiring a space of only 12 feet back of the manhole, the SewerRoder leaves no exposed rod on the street and provides full safety for the operator. Rods reel in and out of the container automatically.

## Lubrication Booklet

"The Fundamentals of Lubricating Greases and Their Application" are covered in a new educational booklet of that title published by Shell Oil Company of New York City. Describing the makeup and general character of greases, the booklet discusses the jobs greases can do best and tells how greases are made to do particular jobs. A seven-page section, containing many illustrations, shows how greases function in anti-friction bearings, centralized lubrication systems (such as those in blast furnaces), paper-making machines, diesel-electric locomotives, textile machinery, metal-working presses and steel-mill machinery.

## Wire Rope Sockets

Wire-rope sockets that reduce dragline rope breakage are now being produced by Baer Steel Products, Inc., Auburn, Wash.

The Baer socket and its wedge grip rope in true-circle seats. Wide shoulders limit pinching, rope distortion and cutting. Socket and wedge seats are matched to the size rope for which they are specified. Each socket holds 100 ft. of 100-ton strands. One reversible wedge fits all socket types for each size rope. Open and closed end and crowfoot drag sockets come in sizes from  $\frac{1}{2}$  to  $2\frac{1}{2}$ -inch rope.

## Eschenbrenner Awards

The "Eschenbrenner Awards," three annual \$500 prizes for senior civil engineering students, have been announced by Universal Concrete Pipe Co., Columbus, Ohio. Purpose of the awards is to stimulate original thinking in the design, fabrication and use of concrete products.

The awards are open to all senior civils in recognized institutions east of the Mississippi, including the U. S. Military Academy, U. S. Naval Academy and the Coast Guard school. Papers must be submitted to the company by March 31. Announcement of the awards will be made by May 15.

A Jury of Award, composed of prominent consulting engineers, will judge the entries on these factors: ingenuity and originality of the idea; thoroughness of the research, design, description or procedure; practicability of the result, and technical competence of the presentation.

## Treated Lumber Record Shown in Report

A 44-page, illustrated report covering 25 years of service records for "Wolmanized" pressure-treated lumber has been published by the American Lumber and Treating Co., Chicago, Ill. This report cites the case histories of 1,000 structures and 1,000 pieces of treated material in service and lists 581 specific installations where this clean-treated, decay and termite-resistant wood has been used. The file is considered to be the most extensive in the wood-preserving industry.

Service record compilations for "Wolmanized" pressure-treated lumber were first made in 1941 when over 21,000,000 board feet were inspected by the treating company's technicians. The report on this first inspection was presented at the 1941 annual meeting of the American Wood Preservers' Association. A supplementary report on more than 34,000,000 board feet of Wolmanized-treated lumber was published in 1948. This present report, third in the series, brings up to date past records and adds many new installations to the file.

"Use" classifications break down to: wet process industries, docks and boardwalks, railroad structures, bridges and highway structures, mines, refrigeration plants, buildings, commercial and institutional structures, and stadiums. More than 7,000,000 board feet of the 55,000,000-foot total are between 20 and 25 years old. The first "Wolmanized" installation in the United States, a textile dye house roof in Putnam, Conn., is now 26 years old and all the material is still in service, despite severe moisture conditions.

## New Pioneer Officers

New officers of Pioneer Engineering Works, Inc., Minneapolis, Minn., have been announced by the Board of Directors, following acquisition of the stock of Pioneer by Poor Co., Chicago.

Re-elected are: Lewis W. Yerk, president and general manager; and Melvin Ovstrand, vice president and works manager. Elected vice president in charge of sales is K. E. Brunsdale, formerly secretary-treasurer. Elected treasurer is O. J. Ellertson, formerly assistant secretary and assistant treasurer. Elected assistant secretary is C. R. Rolf, formerly assistant sales manager; in addition, Mr. Rolf has been appointed sales manager. All of the above reside in or near Minneapolis.

Chicago officers of the company announced by the board are: Fred Poor, chairman; Eugene C. Bauer, vice chairman; P. W. Moore, Jr., secretary; and R. W. Sergeant, assistant secretary and comptroller.

## RHU Maintenance Distributor

A new maintenance distributor, Model RHU in 600-, 800-, and 1,000-gallon capacities, has been announced by Rosco Manufacturing Co. of Minneapolis. Designed for mounting on trucks of 1½ ton capacity or more, this unit will handle all types of bituminous materials, and is standard equipped with quick-detachable, non-folding stationary spray heads. It is powered by pump capacity. Burner, power unit, including a 100 GPM rotary pump, are all compactly mounted at the rear. Functional operations of the machine include such features as load, transfer, spray, handspray, circulate, spraybar suck-back to clear spraylines, clean-out and gravity draw-off.

## Crushing Plant Catalog

A new catalog, No. 276 on Dual Portable plants for crushing, screening and loading, has just been issued by Smith Engineering Works, Milwaukee. Wise. Illustrations show dual portable plants on the job and typical Telsmith dual plant combinations which vary from the dual portable with plant-mounted feed hopper and truck-loading with conveyor to the dual portable and truck-loading with conveyor and screening plant.

## Rice Catalog Bulletins

Rice Pump & Machine Co., Milwaukee, Wisc., announce that new catalog bulletins including the Rice 3-inch-15M self-priming centrifugal pump, as well as the 7M and 10M sizes, are now available.

Rice is now building all standard sizes of A.G.C. rated pumps through the 3-inch-15M size, all featuring modern light-weight, air-cooled gasoline engine power. These sizes are also available with pulleys for belt drives and flexible couplings for direct-connected electric motor drives.



**Above—Euclid and Goodyear officials inspect a replica of the 13-cubic yard bottom-dump made by the Euclid Road Machinery Co. and mounted on Goodyear tires. In the group from left to right are: R. Q. Armington, vice president and general manager of the Euclid Company; J. M. Linforth, vice president, Joe Swain, manager of rim sales, and E. J. Thomas, president, Goodyear Tire & Rubber Co.; A. W. Lehman, Euclid advertising manager; L. D. Keplinger and R. S. Burnham, of Goodyear's manufacturers' sales division. Mr. Armington presented the miniature to Mr. Thomas at the Goodyear offices in Akron.**

## Chain Belt Exhibit

Chain Belt Co. of Milwaukee will occupy space 22N, 23N, 24N, and 25N at the forthcoming exhibition of the Track Supply Association and Bridge and Building Supply Men's Association in Chicago, September 18-20, 1950. The Rex 160 Pumperete, the pump that pumps concrete, will be in actual operation. Films showing the Pumperete on bridge building and tunnel lining jobs will also be shown. A Rex 16S building mixer will be on display along with colored "on the job" pictures of Rex pavers, truck mixers, and water pumps.

The personnel from Chain Belt attending this exhibition includes: J. J. Conrick, A. W. Forrett, R. M. Hawkins, Jack Heaps, D. A. Kaiton, W. B. Marshall, A. E. Schmidt, and A. K. Thomas.

## Centrifugal Pump Line

Information on the new self-priming centrifugal pump line is now available from Goulds Pumps, Inc., Seneca Falls, N. Y., in Bulletin 636-1.

The new pumps are of a new design that eliminates valves and yet are said to give efficiency comparable to standard centrifugal pumps.

The self-priming pumps are made in sizes ranging from 1/4 horsepower to 5 horsepower, with both open and closed impellers. Capacities to 120 G.P.M. and heads to 135 feet, depending upon capacity. They can handle suction lifts up to 25 feet.

## Wood Preservers to Meet

The 1951 annual meeting of the American Wood-Preservers' Association will be held in Chicago at the Stevens Hotel from April 24 to 26. President Fred W. Gottschalk has announced. The dates and location were selected by the executive committee of the association.

This 46-year-old scientific society convenes once a year to discuss developments in wood-preserving techniques which make poles, timbers, shingles, and other wood products resistant to decay, insects, and fire. A large attendance, estimated to be more than 700, is expected at the 1951 meeting.

The association has grown to a membership of over 1,400. H. L. Dawson, secretary, reports from the headquarters' office in Washington, D. C.

## British Subsidiary Formed by Caterpillar

Announcement of the formation of Caterpillar Tractor Co., Ltd., a wholly-owned British subsidiary, was made last month by Louis B. Neumiller, president of Caterpillar Tractor Co., Peoria, Ill.

The new company will engage in the business of procuring, inspecting, storing and shipping English-made genuine "Caterpillar" parts to the company's dealers in United Kingdom and other countries.

Employment at the newly-formed English branch will approximate 125 people, most of whom will be drawn from the vicinity of the British plant.

It will be primarily concerned with the wholesale distribution of parts made by selected British manufacturers and sold through authorized "Caterpillar" dealers. Some of the administrative employees of the new company will, however, also have duties in connection with the foreign interests of Caterpillar Tractor Co., of Peoria, Ill.

The new activity in England has become necessary, according to Mr. Neumiller, because of the dollar shortage abroad, the devaluation of currencies, and the rising sales of spurious foreign-made parts. The new subsidiary will make it possible for owners of "Caterpillar" equipment in other countries to obtain genuine "Caterpillar" products.

## Macwhyte Bulletin

A new bulletin on improved Plain Steel wire rope has been issued by the Macwhyte Co., Kenosha, Wisc. All sizes and construction and classifications are combined in one large table. This is probably the first time that this data has ever been assembled in this manner.

"Cable Monarch" Whyte Strand Bulletin No. 50-25, it is four pages, 8½ by 11 inches and contains information on how to order wire rope and explains and describes wire rope constructions.

## New Portable Nailer

Heller engineers have announced a new portable, portable nailer automatically fed. It's 5 times faster than ordinary nailing and drives light metal, prestwood, into hard or soft wood.

Driving mechanism is precision built of tool steel for heavy duty jobs. Heller lock nails come in many sizes ranging from 5/16-inch to 13/16-inches long, and spear-pointed.

# Equipment and Material Makers' News

## New Catalog Describes Parsons Trenchliner

Parsons Co. of Newton, Iowa, announces a new catalog describing recent improvements made on the Parsons Model 221 Trenchliner. Attractively printed and illustrated, the new 12-page trencher bulletin shows in detail some of the exclusive Trenchliner features that provide greater production speeds and more versatile operation. Parsons is a sub-



**Above—The improved Parsons Model 221 Trenchliner can dig 8 feet 6 inches deep and 16 to 36 inches wide.**

sidiary of the Koehring Co. of Milwaukee.

Digging 8½ feet deep and 16 to 36 inches wide, the improved Parsons Model 221 Trenchliner is well suited to handle works project trenching assignments of cities, municipalities and utilities. High production performance records have established the 221's reliability for road and airport drainage work, underground conduit, water and gas main trenching.

Some of the exclusive features explained in the catalog are: trench type frame for maximum strength, travel clearance and digging balance; offset boom that shifts by power for trenching within 1½ in. of crawler tread clearance on either side; arc type discharge conveyor that shifts through entire machine in less than 1 minute for positive controlled discharge.

## Loading Tractor Shovel

The Lodover, a new 1-yard combination overhead loading and front-end loading tractor shovel for the Lodover Industrial Crawler Tractors, is now being produced by Service Supply Corp., Philadelphia, Pa.

Developed after five years of exhaustive field studies and testing, the Lodover substantially increases loading production, because turns are eliminated.

A large number of useful attachments are available for the Lodover, including a hydraulic dozer blade mounted inside the tracks, a hydraulic angle blade, lift fork for pallet and skid loading attachment, rear-mounted winch, crane boom (10,000-pound capacity), snow-bucket, V-type snow plow, and a track cleaning bucket for railroad work.

The Lodover is approved for International Harvester tractor and is sold through International Harvester Industrial Power dealers.

## Terra Cobra Scraper

More powerful 225-horsepower engine and larger 24-00 by 25 24-ply low-pressure tires have been adopted as standard equipment for the new Woodridge Model TCS-42 Terra Cobra self-loading scraper. Substantially increased speed, gradeability, traction, flotation and load-carrying capacity are claimed.

This announcement follows closely the introduction of a number of other new features including formed steel construction for increased ruggedness, 65-inch apron opening and curved ejector designed for faster discharge of sticky materials, increased ground clearance and a number of other improvements. Cummins' model HRBISD-600, 225-horsepower 6-cylinder diesel engines are being used in the new Cobras.

## Dealer Sales Supervisor

Joseph Varacallit has been named dealer sales supervisor for Allis-Chalmers' Empire region with headquarters in New York City, according to an announcement by Arch J. Cooper, manager of the region. He succeeds J. R. Queen, who resigned to join the Columbia Machine & Engineering Co., Hamilton, Ohio.

## Harvester to Build Ninth Parts Depot

## Nelson Quick-Clips

International Harvester Co., Chicago, Ill., has just announced that construction work on a new building which will house a service parts depot and a machine transfer in Broadview, a suburb of Chicago, would begin. The construction project, worth approximately \$5,000,000, has been approved by Mercer Lee, vice president in charge of supply and inventories.

Mr. Lee said that the combined facilities would be the company's largest product distribution center and would be one of the largest in the United States.

General contract for the new building will be announced shortly. Contract for the fabrication and erection of the steel has been on order for some time with the Gage Structural Steel Co. of Chicago. The water, sewer, and plumbing contracts have been awarded to the Commonwealth Plumbing Co. of Chicago, and the electrical contract has been let to the Sykes Sheet Metal Products Co., all of Chicago.

The new one-story building will be constructed on Harvester's 70-acre tract of land located between 13th and 17th avenues, along the right-of-way of the Illinois Central railroad in Broadview. It will contain more than 1,100,000 square feet, which represents an area of approximately 26 acres, under one roof. The front elevation, which will face 22nd street, will be constructed of red face brick with limestone trim.

Air-conditioned offices of both the parts depot and machine transfer will occupy a 78,000-square-foot area in the front of the building. Adequate kitchen and cafeteria facilities will be provided for the convenience of employees.

A sprinkler system will be installed throughout all storage areas to provide adequate fire protection. A 250,000-gallon reservoir and a 100,000-gallon elevated water tank will provide water for the sprinkler system. Construction is scheduled for completion by the end of 1951.

The parts depot, the ninth of Harvester's network of twelve to be installed throughout the United States, will serve as a wholesale parts distribution center for company-owned district sales offices, branch service centers, and dealers located in Illinois, Indiana, western Michigan, southern Wisconsin, eastern Iowa, and northern Kentucky. In addition, the majority of the company's export shipments of service parts will be made from the Broadview depot.

## New Truck Cranes

Unit Crane & Shovel Corp., Milwaukee, Wis., announces the development and production of two new truck cranes, models 1520T and the 1014.

The Unit 1520T has a lifting capacity range up to 20 tons, and ½-yard in excavator service. It is mounted on a 3-axle, tandem drive crane carrier designed exclusively for heavy-duty crane operation. A Timken-Detroit worm-type axle unit is mounted in tandem with the through drive. Walking beam supports are on the rear axles, equipped with air suspension, and allow all rear wheels to have constant contact when traveling on uneven terrain. Wheelbase is 184 inches to center of tandem axles, and the overall width is held to 8 feet. Equipped with 12-ply, 11.00-20 tires—2 in front, 8 in the rear. Parking brake is disc-type, 16-inch diameter, with four shoes.

The Unit 1014 Truck Crane has a lifting capacity of 10 tons, and ½-yard as an excavator. Equipped with 35-ply tires, the 1014T is in excess of 35,000 pounds. The 1014 carrier is built similar to that of the 1520T, and one-man control can be applied with the addition of air-power steering. It carries the upper structure of the newly developed, Unit 614 model, recently announced. Standard power installations are a Waukesha M2A in the chassis and a Wisconsin 195 GK in the engine in the upper. Diesel installations are GMC with a two-cycle in upper, three-cycle in chassis. Independent boom hoist is optional. It also has five speeds forward and one reverse, with a two-speed auxiliary transmission extending the total speeds to ten forward and two reverse. Road speed is rated at 32 miles per hour.

Simple, low-cost, one-man installation of acoustical tile and duct insulation materials through the use of Quick-Clips is claimed by the Nelson Stud Welding Division of Morton Gregory Corp., Lorain, Ohio.

In the case of fiberglass, a formed-wire Quick-Clip fits over the furring strip or ½-inch plasterer's channel, while the other end, formed into an oval loop, is pressed into the edge of the tile being applied. Half of each loop is imbedded horizontally into each adjoining tile. One man working by himself, with no tools, is said to be able to install a ceiling without assistance at the rate of at least 90 square feet per hour on straight going.

## Fill Sloper Unit

A job tested fill sloper attachment is being manufactured and sold by the Central Construction Co. of Indianapolis, Iowa, who developed the unit several years ago for their own road-finishing needs. Since that time other road-builders, watching the simplified once-over-finishing technique made possible by Central's power-controlled sloper, have put Central Construction into the Sloper manufacturing business by demanding units for their own Caterpillar No. 12 motor graders.

## Improved Mixermobile

A new and improved model of the 2-yard Mixermobile M-7 is announced by Mixermobile Manufacturers of Portland, Ore. The 2-yard Mixermobile was the first machine made by the company and the new model employs technical developments tested and proved since the first model was made. Model M-7 is a compact mobile concrete mixing and placing plant with a hydraulically operated self-loading skip for receiving batched aggregates directly from dump trucks, portable batching plants, or front-end loaders. The unit has a standard 34-foot steel tower, with ten-foot extensions available. Power is furnished by the truck motor, an eight-cylinder Diesel, heavy-duty industrial engine.

The M-7 Mixermobile can be used with ready-mix.

An improved electronic water meter that can be set and locked measures amounts of water from zero to 100 gallons automatically and without variation.

## New Catalog Presents Allis-Chalmers Grader

A 20-page two-color catalog presenting Allis-Chalmers' new 34.7 horsepower Model D grader has just been released by the company's Tractor Division, Milwaukee, Wis.

A panel of 15 action pictures demonstrates the Model D's versatility on an assortment

**Below — New Allis-Chalmers' 34.7-horsepower Model D. Grader described in 20-page two-color catalog.**



of construction and maintenance jobs. A two-page photograph of the low priced 8,500-pound Model D accompanies a list of several popular accepted big grader features such as tandem rear-wheel drive, modular frame design and rear-mounted engine-transmission construction for improved visibility.

Next comes a cut-away view of the heavy-duty, 4 cylinder Allis-Chalmers gasoline engine that powers the new Model D. Special study is made of the D's rugged transmission and tandem drive.

Special attachments that earn savings all year 'round on a variety of jobs are thoroughly discussed, and a full page of specifications are given.

## Atlantic Steel Forms Product Engineering Unit

In response to the marked growth of metalworking industries throughout the South, and to increased demand for diversification of its own products, the Atlantic Steel Co., Atlanta, Ga., has announced formation of a Product Engineering Department.

R. S. Lynch, president of the company, stated that the new department had begun operations August 1. Objectives of the unit include arousing of consumer interest and stimulation of sales so as to hold or increase the company's share of existing markets; utilization of idle production and sales facilities through opening of new markets; diversification of product lines so as to reduce seasonal and long-term fluctuations in production and sales; and direct services to Atlantic Steel customers as well as to other metal consumers and fabricators in the form of free consulting-type assistance in such areas as product design, plant lay-out, fabrication problems, metallurgical problems, market surveys and analysis and other similar manufacturing and marketing problems.

Commenting on the long-range program of product development, Mr. Lynch stated: "Not only does industry in the southeastern region afford us at this stage of its development a great opportunity for keeping our own products adapted to its needs, but it is also our decided obligation to Southern industry and agriculture to create research and development services which will particularly broaden the productive capacity of industry in the region, to help them to improve their application of steel in the processing of their products, and to offer other direct aids which will result in improved quality and design of finished steel products made by Southern manufacturers."

Coincident with the announcement of this new addition to Atlantic Steel's organization structure, Mr. Lynch elected F. A. Teeple, Jr., manager of the Product Engineering Department. Mr. Teeple, with Atlantic Steel since 1934, has had a broad background and extensive experience in the metals fabrication field both as design engineer and in important operating and executive capacities.

## Sales Meeting Held

Climaxing a recent W. A. Riddell Corp. motor grader sales and service meeting was a series of grueling field operations on the rugged contours of the company's proving grounds. Observing and participating in this field performance were Edward Dickson, regional service engineer, International Harvester Co.; Don Steele and Bob McKie from International's Industrial Power Division; Jacque Jones, vice president and general manager of W. A. Riddell Corp.; Bill Holland, International's sales manager, Industrial Power Division; Bill McGraw, Riddell's sales manager; Fred Schreck, assistant service supervisor, also from Harvester's Industrial Power Division.

## Carbide Bit Service

A picture story presented in a 20-page book by Rock Bit Sales & Service Co., Philadelphia, Pa., shows how to successfully recondition tungsten-carbide bits. In addition the book contains many helpful operating suggestions for drillers on how to obtain the maximum speed and footage out of carbide bits, as well as a complete catalog covering Rock-Bits.

## Cement Man Dies

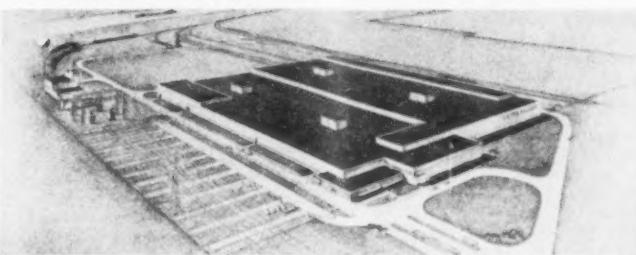
James R. Fairman, assistant to the vice president of Pennsylvania-Dixie Cement Corp., New York, died August 3.

Mr. Fairman was with the Portland Cement Association from 1920, becoming regional manager in charge of the Eastern Offices of the Association at New York, until 1937 when he joined the Pennsylvania-Dixie Cement Corporation.

## Hooper-Green Named by Ship Company

The Newport News Shipbuilding and Dry Dock Co. of Newport News, Va., has announced appointment of the Hooper-Green Co. of Chicago and Indianapolis as its midwest sales representative. Hooper-Green is headed by J. G. Green; A. J. Stone is district representative of the company in Indianapolis.

## Caterpillar Begins Erecting Steel for Joilet Plant



*Above—Artist's conception of the new plant Caterpillar Tractor Co. will build at Joliet, Ill., for manufacture of bulldozers, scrapers, wagons and rippers, in addition to cable and hydraulic controls used with such equipment.*

First steel erection at the new Caterpillar Tractor Co. plant at Joliet, Ill., began August 8, according to T. R. Farley, vice president.

The new plant at Joliet marks an additional expansion of manufacturing facilities with which it is planned to achieve the greatest possible economy in the manufacture and distribution of Caterpillar products. In addition to its main plant at Peoria, Ill., Caterpillar has a factory and parts depot at San Leandro, Calif., and parts depots at Kansas City, Kansas; Atlanta, Ga.; Shreveport, La.; Albany, N. Y.; Minneapolis, Minn.; Spokane, Wash., and Indianapolis, Ind.

It is planned that final assembly operations

from component parts produced by Caterpillar and the present subcontractors will start in the Joliet plant even before the building is completed and the necessary machinery for fabrication is installed.

While the cost of the facilities, which will include a modern steel fabricating and assembly building, an office building, a heating plant and a soluble oil and waste treatment plants was not disclosed, it is understood that it involves the expenditure of several millions of dollars.

The manufacturing facilities will cover approximately 700 thousand square feet of floor space and it is estimated that sixteen to seventeen hundred people ultimately will be employed in its operation.

## New Truck Transmission With Fluid Flywheel

Transmission and Gear Co., Dearborn, Mich., has announced a new development in truck concrete mixer transmissions which incorporates a torque converter and fluid flywheel. Advantages of the unit are a 50 per cent reduction in required horsepower, the absence of shock loads and greatly increased clutch life. In the past, 4½ and 5-yard truck mixers have used an engine of approximately 55 horsepower. Using the new torque converter transmission, the engine is reduced to 28 horsepower. This reduction in the size of the engine makes possible savings in initial cost, operating cost, maintenance, and total weight.

## Backfill Blade Device

A new backfill blade attachment, said to greatly speed covering and leveling of all types of excavation and trenching work, has just been announced by Schield Bantam Co., Waukegan, Ill. Designed for use in interchangeable operation with the ½-yard truck-mounted Schield Bantam trench hoe, the new backfiller consists of a cable-operated steel blade mounted on a wishbone dip stick, with two tubular control arms, which hold the blade vertical to the ground as it is pulled toward the machine. The manufacturer claims the device is "dozen times" faster than ordinary backfilling. The main blade to "roll" big loads of dirt into a trench much faster and easier than old scoop-type backfillers.

Equipped with heavy-duty 24 by 60-inch blade with ½-inch reversible cutting edge, the attachment is reported to have a maximum trenching capacity of 23 feet per minute, plus ability to work to within 6 feet 6 inches of the center of machine rotation. It can also be controlled vertically to within 1 inch of the ground surface.

## Unistrut Concrete Inserts

A fully illustrated 4-page bulletin describing a new, improved, lower cost Unistrut concrete insert has recently been published by Unistrut Products Co., 1013 W. Washington Blvd., Chicago 7, Ill.

Bulletin CI-2 enumerates advantages the new Unistrut concrete insert is said to have over various other types of inserts on the market. It is pointed out that the patented Unistrut features permit attachment of fittings at any point along the entire insert face without disturbing attachments previously made. The bulletin describes a method of making your own inserts from short pieces of Unistrut channel and anchor-type drive-in end caps.

## "Industrial Monkey"

A new labor-saving machine designed to reach hard-to-get-at heights has been developed by the Harsh Machine Works, Inc., Portland, Oregon, and is being manufactured by the Harsh Machine Works of that city.

Named the "Industrial Monkey," the machine was originally planned for use by power companies. However, wide applications among all industries which must send workers above ground is foreseen by R. E. McCullough, manager of the Harsh Machine Works.

The "Industrial Monkey" consists of an extendable steel boom mounted on any 1½-ton or larger truck. On the end of the boom is a rail-protected, automatically self-leveling work platform insulated to protect against 5000 volts. Sixteen feet long closed, the boom extends to 26 feet and is mounted on the truck at a point approximately 10 feet above the ground. The additional height of the worker enables him to work safely and comfortably at heights up to 40 feet.

## Appointed Sales Manager

The appointment of Leon B. Wohlgemuth as sales manager of the Chicago district office of Babcock & Wilcox Tube Co., Beaver Falls, Pa., has been announced by Edward A. Livingstone, vice president of the company. He succeeds H. J. (Skip) Lefferty who was transferred recently to Los Angeles as Pacific Coast sales manager of the tube company.

Mr. Wohlgemuth is native of Millville, Ohio, and graduated in 1936 from the University of Pittsburgh. He has been with the B&W Tube Company since that time. In 1939 he was transferred to the Chicago office of the company and since 1946 has been assistant district sales manager at that office.

Mr. Wohlgemuth will maintain his headquarters in the Lorillard Building at 105 LaSalle Street in Chicago.

## Youngstown's Yoloy Pipe

The Youngstown Sheet and Tube Co., Youngstown, Ohio, has announced the manufacture of Yoloy concrete reinforcing pipe which has the following characteristics: galvanized, weld, bends and fabricates readily, tensile strength is high, resistant to abrasion, resistance to shock and vibration is high and it is high in corrosion resistance.

In the past, Yoloy steel has been used as seamless pipe, sheets, plates and structural members, particularly in mining, railroad, chemicals, trucking and other industries where resistance to corrosion and abrasion are a problem and lighter weight construction is important.

(More on page 44)

## Arkansas Road Program

Fall will find widespread construction projects on Arkansas roads and bridges.

The State Highway Commission's mid-August contracts were for 84,403 miles of roads, and construction and remodeling of 22 bridges and culverts. They will cost \$2,306,736.33.

Bids accepted were under engineers' estimates of \$2,725,000 for the work.

The projects make a total of \$15,386,563 in highway contracts committed by the commission since January for new construction.

Here are the projects, listed by counties and firms and contractors who got the work via their low bids:

Saline—Construction of about 240 feet of a reinforced concrete bridge and about 1,560 feet of approaches to a bridge on Bauxite-Sardis road; D. F. Jones Construction Co., Little Rock, \$44,289.05;

Bradley and Drew—Construction of about 7.7 miles of gravel base course and blacktop on the Warren-Wilmar road, Highway 4; S. M. Dixon Construction Co., Warren, \$142,701.48;

Crittenden and St. Francis—6,895 miles of grading, minor drainage on the Hughes-Simsboro road, Highway 79, to begin at north city limits of Hughes, Ark., and proceed along Missouri Pacific railroad to a point near Simsboro; D. B. Hill, Little Rock, \$89,351.25;

Phillips—3,1193 miles of grading, minor drainage structures, bituminous surface course, concrete pavement and a reinforced concrete bridge on the Helena-West Helena road, Highway 20, to begin 200 feet south of the intersection of 10th and Plaza streets in W. Helena, with the Porter street and Perry street sections both ending at Columbia street in Helena; Weymouth Construction Co., Memphis, Tenn., \$262,551.38;

Desha—7,127 miles of grading, minor drainage structures, gravel base course, bituminous surface course and four reinforced concrete slab and concrete pile bridges on Dumas East road, State Highway 54 to begin at intersection of Highways 54 and 65 at Dumas and end at junction of Highways 54 and 1 at Pendleton; Reynolds and Williams, Little Rock, \$281,589.85;

Mississippi—7,048 miles of gravel base course, bituminous surface, and one reinforced concrete and structural steel bridge on the Armored-East road, Highway 137, to begin at Armored and end at Huffman; Bucton Construction Co., Hazen, \$211,810.47;

Lawrence and Randolph—8,422 miles of grading, flexible base course and dense graded asphaltic hot mix surface course on the Portia-Ravenden road, State Highway 63, to begin first section—at end of existing surface on Highway 63 east of Portia and continue along 63 to a mile west of Black Rock; section two—to begin at the end of existing pavement in Imboden and continue along 63 to a quarter mile west of Ravenden; D. F. Jones Construction Co., Little Rock, \$164,390.74;

Perry—5,477 miles of gravel base course, bituminous surface course and four multiple span box culverts on the Perryville-West road, State Highway 60,

to begin a half mile west of Perryville and extend west on the present location of Highway 60 to two miles beyond the Cherry Hill community; Ben M. Hogan and Co., Little Rock, \$123,554.43;

Yell—1,031 miles of grading and gravel surface approaches and one reinforced concrete and structural steel bridge, one timber bridge, three reinforced concrete box culverts and remodeling two reinforced concrete bridges on the Rover-Scott county line road, Highway 28, to begin at Gravelly and include seven structure locations between Gravelly and Rover; Forsgren Brothers, \$169,985.37;

Columbia—6,416 miles of gravel base course and road mix surface course on the Waldo-Nevada county line, Highway 19, to begin at intersection of Highways 19 and 82, thence north along the existing location of Highway 19 to the Columbia-Nevada county line; D. F. Jones Construction Co., Little Rock, \$141,969.32;

Pike—4,721 miles of gravel base course, road mix surface course and one reinforced concrete and structural steel bridge on the Delight-Antoine road, Highway 26 to begin about 600 feet west of the Wolfe creek bridge in Delight and extend easterly along Highway 26 to 1,200 feet west of the Antoine river bridge in Antoine; Albright Brothers, Newport, \$158,623;

Franklin—10,068 miles of gravel base course and bituminous surface course construction two bridges and remodeling two bridges on the Ozark-North road, Highway 23, to begin at intersection of Highways 64 and 23 in Ozark and extend northerly along the present location of Highway 23 to a point about six miles south of Cass; W. J. Menefee Construction Co., Sedalia, Mo., \$270,766.83;

Jackson—6,481 miles of gravel base course and road mix surface course and one reinforced concrete and structural steel bridge on the junction, Highway 14-Shoffner road to begin about  $\frac{1}{4}$ -mile south of Shoffner and follow north along Highway 17 to its intersection with Highway 14; Albright Brothers, \$142,199.26;

Hot Spring—9,826 miles of gravel surface course on the Highway 270-Bismarck road, Highway 84, to begin east section, at Social Hill and end at the junction of Highways 84 and 270; west section to begin at Bismarck and extend east about 3.5 miles; Forsgren Brothers, Ft. Smith, \$112,953.90.

## Fourteen Buildings Active at Maryland University

Fourteen buildings being erected or almost ready to be placed under construction by the University of Maryland involve an expenditure estimated at \$12,620,000 with an additional \$670,000 for seven projects at the Maryland State College for negroes at Princess Anne.

The program to be presented to the State Legislature, according to University President H. C. Byrd, involves a long list of buildings and is estimated to cost from \$13,000,000 to \$14,000,000.

The University of Maryland Building Authority's program to be constructed  
(Continued on page 46)

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## University of Maryland

(Continued from page 44)

with proceeds from revenue bonds and some cases already on hand is composed of the following units:

Dormitory project, \$1,100,000; Student Union at College Park, including wing for book store and post office, \$600,000; Student Union, Baltimore, \$350,000; fraternity and sorority project, \$700,000; auditorium, physical education, indoor athletics, \$2,250,000; total, \$5,000,000.

The university now has under construction the following:

Chemistry building, \$2,000,000; addition to girls' gymnasium, \$230,000; stadium, \$1,050,000; greenhouses, \$135,000; chapel, \$50,000; total, \$3,915,000.

At Maryland State College, Princess Anne, the college for negroes, there is under construction the following:

Dining hall, \$150,000; complete dining hall, \$65,000; men's dormitory, \$200,000; dairy, beef cattle, sheep barns, \$40,000; athletic field, \$15,000; heating plant, \$140,000; sewage disposal, \$60,000; total, \$670,000.

The university has funds available for buildings for which plans are being drawn, and are ready to start, as follows:

Industrial arts building, \$190,000; physics building, \$725,000; addition to hospital, \$2,700,000; plant laboratory, \$90,000; total, \$3,705,000.

## Home Builders Plan Autumn Festival

Although military considerations are expected to bring about a curtailment of St. Louis home building when next year's season opens, construction this year has been at the highest peak in history and members of the Home Builders Association of Greater St. Louis (Bildors) are observing a "1950 Festival of Homes" September 10 through October 8, showing what they've done this year and what they have to offer.

Construction has proceeded in all sections of the metropolitan area, in both St. Louis and its suburbs, with houses in all price classes built. Some sell for less than \$9,000; others range up to \$70,000.

Builders who anticipate taking part in the Festival include:

Ben Goldberg & Co., building on McKnight road in Ladue and Richmond Heights;

Frank B. J. Darr & Son, building in Glendale and other sections to the southwest;

Ralph Duke & Son, building in Blackberry Terrace;

Charles F. Vatterott & Co., building in the St. Ann area, St. John's road;

J. Harvey Vaterott, building in the Morganford Park subdivision on Morganford road south of Loughborough;

The Cassilly Construction Co., building in the Garden Ridge subdivision on South Elm in Webster Groves;

The Milton Construction Co., building in Hathaway Hills, north of the Halls Ferry Circle and east of Jennings;

Henry Cernicek, building in Gerald Court, Ferguson;

The Schrader Construction Co., building in Buder Park Terrace, adjoining Buder Park, Overland;

John E. Tegethoff, building in Darstdale (Woodson and Olive Street road);

Norbert V. Bussmann, building in Davis Place, Clayton, and with Steve Novak on Picardy Lane;

Joseph Leopold, building in Countryaire subdivision, Ballas road north of Clayton road;

Burt Wenneker, building in Ladue; Lombardi-Simon, building in Kirkwood; Samuel Ladd, building on Groby road in University City;

Walter H. Beck, building in Ladue; Eugene R. Smith, building in University City;

Ed. Juncker, building in Overland area.

## \$750,000 Pilot Award Goes to Southeastern

Pilot Life Insurance Company of Sedgewick has awarded general contract for its \$750,000 building addition to Southeastern Construction Co. of Charlotte.

General contract covers construction, plumbing, electrical, and heating work. McMinn and Norfleet, Greensboro architects, designed the building.

## Church Contracts Let

Five Greensboro firms have won contracts for construction of the new \$343,060 education and recreation building of the West Market street Methodist Church in Greensboro. Architect Albert C. Woodroof has announced.

L. B. Gallimore bid \$226,282 to win the general contract; Peebles Electric Co., \$19,400 on electrical work; Crutchfield Plumbing Co., \$12,985 for plumbing, and Dick and Kirkman, Inc., \$21,500 for heating equipment.

Gallimore is demolishing the present structure, a former public library. Carolina Steel and Iron Co. has held a \$62,883 contract for steel items since last year.

The four-story structure will have an exterior of sandfaced brick and limestone trim, with steel windows and flat roof.

## Wilson and Christie Open New Office

David H. Wilson and Peter G. Christie announced the opening of the architectural office of Wilson and Christie at 100 West Pennsylvania Avenue, Towson 4, Md.

## Kane to Build Church

Contracts have been let for the new First Baptist Church of Greensboro, estimated to cost \$927,364.32.

George W. Kane of Greensboro won the general contract for construction of the church and religious building at a low bid of \$740,712. Gate City Electric Co. took the electrical contract on a bid of \$37,420, and Dick and Kirkman, Inc., plumbing, heating, and ventilation, \$96,740. All are Greensboro firms.

Lambeth Construction Co. handled the grading, using three Caterpillar tractors and pavers, and one D-7 Caterpillar bulldozer.

Albert C. Woodroof, Greensboro architect, designed the church.

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### TEXAS PROJECTS

(Continued from page 39)

ance Bldg., San Antonio, \$93,663.

**Rockwall**—F-1825(11) Hwy. US 67, 4.295 mi. of pave. hot mix asph. conc. pave. conc. pave.; Rockwall, Texas, Southwest General Construction Co., 426 Reserve Loan Life Bldg., Dallas, \$625,068.

**Matagorda**—C-1794-16 & C-241-2-7, Hwy. SH 35 & 60, 1,453 mi. conc. pave., widening and asph. pave.; Harrison Engineering & Construction Corp., 4638 Mill Creek Pkwy., Kansas City, Mo. & P. O. Box 230, Texas City, Tex., \$13,220,000.

**Robertson**—R-540-6-2, Hwy. FM 1373, 8.699 mi. grad. drain str., flex. base and 1-course surf. treat.; H. L. Butler & Son, P. O. Box 7112, Dallas, \$77,526.

**Ellis**—S-1450(1) & S-1451(1), Hwy. FM 813 & 983, 9.796 mi. grad. & drain str.; T. C. Cage, 607 Travis Bldg., San Antonio, \$57,830.

**Parker**—R-1468-1-1 & R-717-2-1, Hwy. FM 1512 & 1514, 9.876 mi. grad. str., combined treat. and 2-course surf. treat.; Brittain & Gibbons, P. O. Box 2761, Ft. Worth, \$82,854.

**Bell**—R-1201-4-1, Hwy. FM 1236, 5.797 mi. grad. str., foundation course and 1-course surf. treat.; Thomas & Ratliff, Rogers, \$54,324.

**Orange**—V-784-5-1, Hwy. FM 1132, 2,518 mi. grad. str., flex. base and 1-course surf. treat.; John F. Buckner & Sons, P. O. Box 76, Cleburne, \$60,768.

**Dallas**—H-1047-3-1, Hwy. FM 1380, 0.850 mi. grad. str., flex. base; Austin Bridge Co., P. O. Box 1590, Dallas, \$83,062.

**Blanco**—R-954-4-1, Hwy. FM 1320, 5,683 mi. grad. str., found. course, & 2 course surf. treat.; W. H. Kilian & Co., Inc., P. O. Box 300, San Antonio, and Kilian-Keller Co., P. O. Box 1981, \$42,806.

**Montague**—S-927(2), Hwy. FM 455, 6,948 mi. grad. drain str., flex. base & 2-course surf. treat.; Spencer Construction Co., P. O. Box 487, Carrollton, \$107,450.

**Kaufman and Van Zandt**—R-1397-1-1 & R-1397-2-1, Hwy. FM 85, 5,582 mi. grad. str., & soil asph. base and 1-course surf. treat.; Jerry Davidson, P. O. Box 439, Terrell, \$36,694.

**San Patricio**—R-507-2-4, Hwy. FM 631, 12,622 mi. grad. str., reconditioning base and asph. surf. treat.; J. M. Deilingier, Inc., P. O. Box 4227, Corpus Christi, \$92,685.

**Travis**—R-1200-2-2, Hwy. FM 1326, 4,703 mi. grad. str., foundation course and 2 course surf. treat.; Pioneer Trucking & Construction Co., Grapevine, \$35,997.

**Cass**—R-546-8-1, Hwy. FM 1390, 16,299 mi. grad. str., flex. base and 1-course surf. treat.; Foley & Williams, 1603 E. Erwin St., Tyler, \$159,709.

**Terry and Lynn**—S-1465(1), Hwy. FM 1076, SE 137 & FM 213, 17,324 mi. grad. str., stab. foundation course and 2-course surf. treat.; J. R. Fanning, P. O. Box 1047, Lubbock, \$111,965.

State Highway Department, Austin, received low bids for projects in following counties:

**Shackelford**—Farm Hwy. 1084, 6.8 mi. grad. struc. flex. base and 1-course surf. treat.; Harry Campbell, Ft. Worth, \$94,312.

**Medina**—Hwy. 1105, 8.1 mi. grad. struc. flex. base and 1-course surf. treat.; Holland Page, Austin, \$49,928.

**Tarrant**—Hwy. 81, 1.3 mi. grad. struc. facilities and conc. pav.; Texas Bitumite Co., Dallas, \$848,596.

**Tarrant**—Hwy. 81, grade separation struc.; E. Worrell, Junction, \$178,598.

**Comanche**—Hwys. 390 & 591, 5.8 mi. grad. struc. flex. base and 1-course surf. treat.; Wesley Hall, Brownwood, \$49,974.

**Hardin**—Hwy. 1104, 9.9 mi. part widening, struc. lengthening and hot mix asph. conc. pav.; Gulf Bitumite Co., Houston, \$483,691.

**Hardin**—Hwy. 1093, 2.5 mi. grad. struc. flex. base and 1-course surf. treat.; Farmsworth & Chambers Co., Inc., Houston, \$144,501.

**Smith**—State Hwy. 31, U. S. 271 & Spur 226, 1.5 mi. grad. struc. flex. base and asph. surf. treat.; R. R. Nichols, Huff-Tyler, \$16,729.

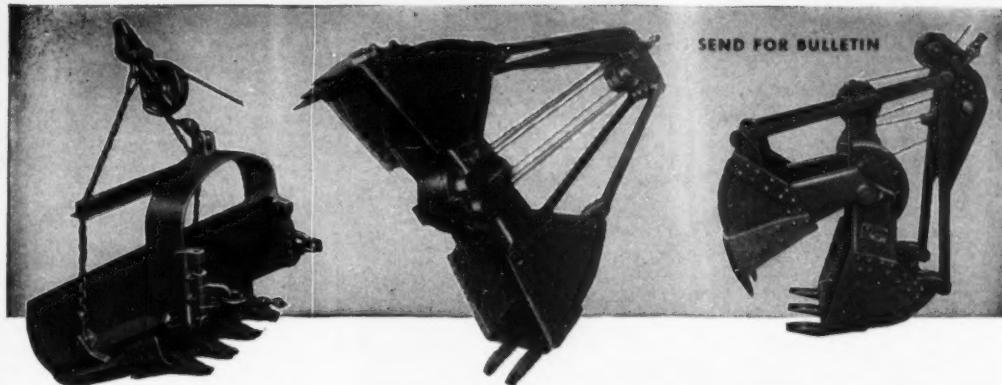
**San Patricio and Nueces**—U. S. Hwy. 181 & Farm Hwy. 893, 5.2 mi. grad. struc. flex. base and hot mix asph. conc. pav.; Heldenfels Brothers, Corpus Christi, \$328,350.

**Rockwall**—Farm Hwys. 1141, 1395 & 1396, 5.3 mi. grad. struc. stab. foundation course and 1-course surf. treat.; R. W. McKinney, Nonagon, \$118,961.

**Denton**—Hwy. 1260, 4.9 mi. grad. struc. flex. base and 1-course surf. treat.; Ernest Lloyd, Ft. Worth, \$86,253.

**Jackson and Victoria**—Hwys. 822 & 444, 9.01 mi. grad. struc. flex. base and 1-course surf. treat.; M-J Construction Co., Inc., Beeville, \$158,010.

**Elliis**—Hwy. 1387, 3.7 mi. grad. struc. base and 1-course surf. treat.; T. C. Cage, (Continued on page 50)

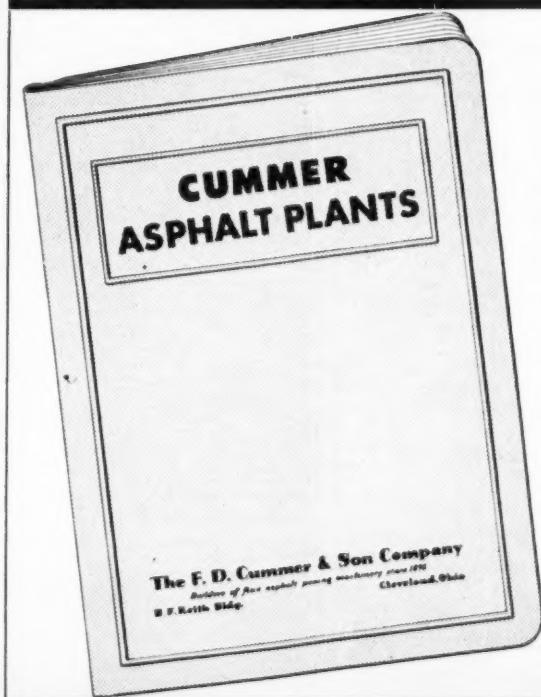


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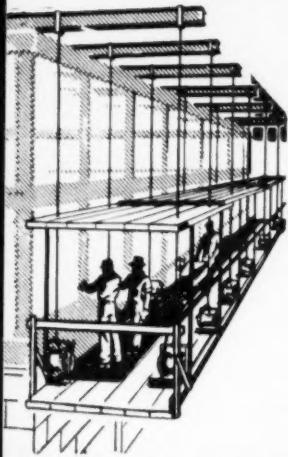
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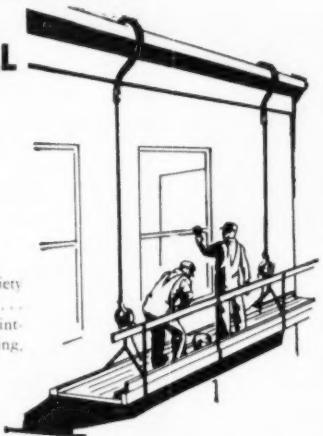
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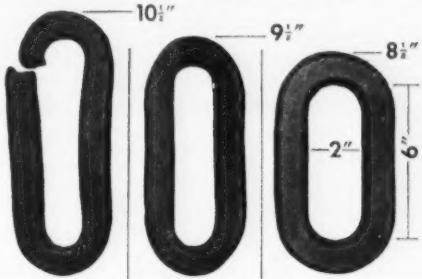
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## TEXAS PROJECTS

(Continued from page 50)

**DALLAS**—City received low bid from W. G. Culium and Co., and Whittle Construction Co., Great National Life Bldg., for Elm Fork Water Plant, mixing and settling basins, bid No. 1, \$2,563,789; bid No. 2, \$2,535,789; bid No. 3, \$2,014,609; bid No. 4, \$2,088,989; and bid No. 5, \$2,003,989.

**DALLAS**—St. Paul's Hospital let contract to Robert E. McKee, for two new 6-floor wings, \$1,200,000.

**DALLAS**—Dallas Independent School District received low bid from Farnsworth and Chambers Co., Inc., Houston, \$529,236 for H. S. Thompson Elementary School.

**DALLAS**—City received low bid from James C. Williams, \$1,629,000, for filter building, Nos. 1, 2, at Elm Fork Water Plant.

**DALLAS**—Dunlap-Swain Co. has construction underway for first bldg., \$40,000 automobile service station & store for the Walnut Hill Village, a combination shopping center.

apartment house project, and residential hotel, \$1,500,000.

**DALLAS-FORT WORTH**—National Archives Corp., Houston, plans \$650,000 records storage public warehouse.

**DALLAS**—Adolphus Hotel let contract to Henry C. Beck Co., for 500-room hotel addition, \$6,000,000.

**DALLAS**—City received low bid from W. G. Culium & Whittle Construction Co., \$547,104 on Item 1; \$547,510 on Item 2; and \$504,184 on Item 4 on sanitary sewers at White Rock disposal plant.

**DALLAS**—City let contract to W. G. Culium & Whittle Construction Co., \$499,240 for sanitary sewers at White Rock Disposal Plant.

**DALLAS**—Dallas Independent School District let contract to J. W. Bateson Construction Co., Inc., \$618,221 for addition to Booker T. Washington School.

**DALLAS**—City let contract to W. G. Culium & Whittle Construction Co., \$2,088,989 for mixing and settling basins at Elm Fork Water Plant.

**EL PASO**—El Paso Independent School District has plans in progress for Technological Institute, \$1,000,000.

**FORT WORTH**—City received low bid from Russ Mitchell, Inc., Houston, \$1,640,000, for sewage treatment plant expansion, Contract No. 1.

**FORT WORTH**—Texas Christian University has final plans in progress for science building, \$1,200,000.

**GRAND PRAIRIE**—Grand Prairie Independent School District plans school buildings, \$750,000 bonds issued.

**HARLINGEN**—City plans sewer and drainage improvements; \$670,000 bond issued voted.

**HENDERSON**—Henderson Independent School District plans high school bldg., \$500,000.

**HOUSTON**—National Bank of Commerce plans parking garage with tunnel connecting to bank, \$1,000,000.

**HOUSTON**—City plans administration building, Municipal Airport, \$1,145,000.

**HOUSTON**—Park Place Baptist Church plans building, \$400,000.

**HOUSTON**—Tennessee Gas Transmission Co. plans selling \$400,000 first mortgage pipeline bonds, proceeds for expansion of natural gas pipe line system.

**HOUSTON**—Christ Episcopal Church will call for bids, \$500,000.

**HOUSTON**—City selected Wyatt C. Hedrick, Houston, as Engr. for Municipal Airport, \$2,917,908.

**HOUSTON**—Bellair State Bank plans office, \$2,000,000.

**HOUSTON**—Transcontinental Gas Pipe Line Corp. may build a second natural gas pipe line from Texas through East Coast States, \$7,537,600.

**HOUSTON**—Braeswood Building & Development Co. plans shopping center at Greenbriar & Holcombe Blvd., \$1,000,000.

**KERRVILLE**—Texas Lions League for Crippled Children, San Antonio, plans camp improvements, \$500,000.

**HOUSTON**—Main & Rusi Realty Co., let contract to Manhattan Construction Co., for office bldg., \$2,500,000.

**KILGORE**—Kilgore Independent School District let contract to R. J. Bell Construction Co., \$17,975 for auditorium.

**LIBBBOK**—Texas Technological College plans student union building, \$500,000.

**LIBBBOK**—City plans voting in September on \$1,153,963 bond issue for Sanitary sewers; \$500,000 bond issue for storm sewers.

**LIBBBOK**—City plans voting in September on \$2,901,038 bond issue for Water Department.

**LIBBBOK**—City plans voting in September on \$1,558,000 bond issue for Electrical Department.

**MARLIN**—Marlin Independent School District let contract to Smith Building Co., Waco, \$465,262 for White Elementary School and Colored High School.

**MIDLAND**—City received low bid from U. S. Pipe Co., Dallas, for pipe for city, \$602,407.

**PAMPA**—Pampa Independent School District let contract to James T. Taylor and Sons, Inc., Fort Worth, \$616,959 for school building program.

**PARR-SAN JUAN-ALAMO**—School District plans vote \$600,000 bond issue for school building improvements.

**POPE ARTHUR**—Gulf Oil Corp. let contract to M. W. Kellogg Co. for fluid catalytic cracking unit, \$8,000,000.

**RIO GRANDE CITY**—Department of State, International Boundary and Water Commission, U. S. and Mexico received low bid from W. L. Ferguson and Sons, Brownsville, \$543,079 for resurfacing office and garage building for Falcon Village.

**SAN ANTONIO**—City has capital grant reservation of \$1,970,000 for slum clearance and redevelopment projects.

**SAN ANTONIO & SOUTHTON**—Board of Managers, San Antonio-Bexar County Hospital System received low bid from Walsh & Burns Co., \$1,294,797 for alterations and additions to Robert B. Green Memorial Hospital.

**SCURRY COUNTY**—Sunray Oil Corp., Tulsa, Okla., let contract to Fluor Corp., Ltd., Los Angeles, Calif., for gas conservation plant, \$7,000,000.

**TEXAS CITY**—Hotel Construction Co. have final plans in progress for seven-story hotel, \$900,000.

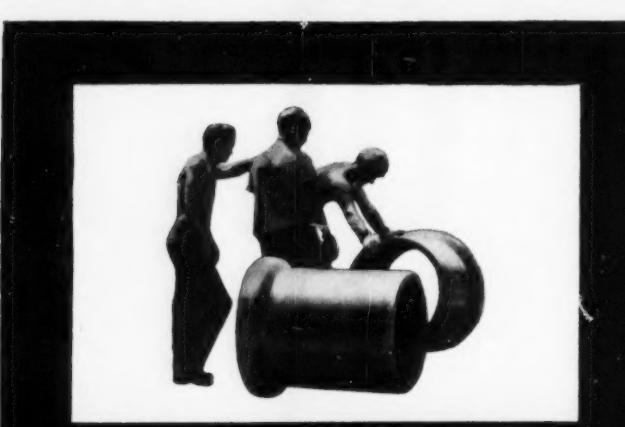
**WACO**—McLennan County Commissioners have preliminary plans in progress for three-story Courthouse Annex and Jail, \$650,000 bond issue voted.

**WACO**—McLennan County plans fair buildings, \$1,200,000.

**WACO**—First Baptist Church let contract to McLellan-Brown-McLean, \$517,392 for educational bldg. and chapel.

**WEST COLUMBIA**—West Columbia Independent School District let contract to Fisher Construction Co., Houston, \$439,000 for school buildings and improvements.

**WICHITA FALLS**—City received low bid from H. B. Zachry Co., San Antonio, \$501,500 for sewer disposal plant improvements.



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**2** For BETTER clay pipe...

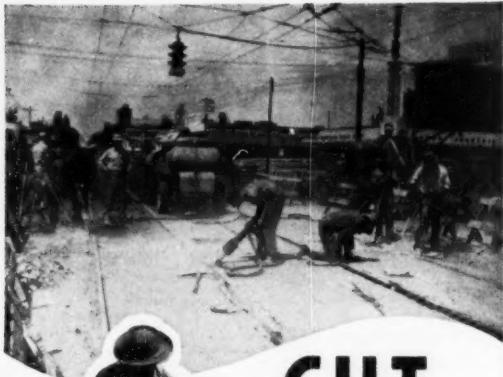
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**CUT COSTS**  
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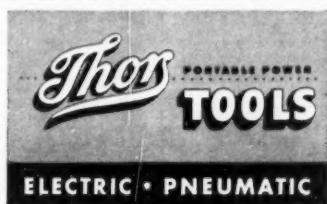
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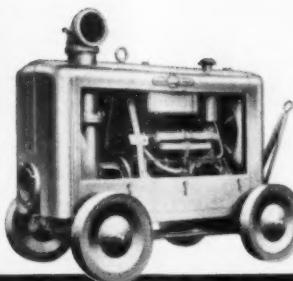
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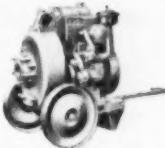
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## VIRGINIA PROJECTS

**VIRGINIA-W. VIRGINIA**—Shenandoah Gas Co., Lynchburg, plans 49-mile natural gas pipe line from Cedarville to Front Royal and Winchester, Va., and Martinsburg, W. Va., \$2,300,000.

Corps of Engineers, Norfolk, let contract to T. A. LaPorte, Arlington, \$129,192, for maintenance dredging in Nansemond River.

Department of Defense seeking funds for relocating Army Communication Center, "classified," proposed \$7,873,000 project for which is being asked for survey and design, \$200,000.

**ARLINGTON**—Arlington County plans recreation facilities at Greenbrier Playgroun, \$535,000.

**CHARLOTTESVILLE**—Congress approved relocation of Naval Observatory from Washington, D. C., including buildings, collateral equipment, accessory construction and acquisition of land, \$7,000,000.

**CHARLOTTESVILLE**—University of Virginia received low bid from Doyle & Russell, Central National Bank Bldg., Richmond, \$387,400, for women's dormitory.

**CHARLOTTESVILLE**—University of Vir-

ginia let contract to Wise Contracting Co., Richmond, \$510,886, for alterations and additions to medical school.

**CLIFTON FORGE**—Board of Education received low bid from Harry W. Aikens, Clearbrook, \$170,000, for alterations and additions to Jefferson School.

**DAM NECK**—Department of Defense seeking funds for proposed new type \$18,693,000 "ship ashore" training center, Fleet Air Defense Training Center.

**FAIRFAX COUNTY**—Fairfax County Supervisors plan relocating site for proposed \$1,100,000 sewage-disposal plant.

**MONTGOMERY COUNTY**—Board of Education, Christiansburg, let contract to Wilson Construction Co., Radford, \$171,000, for Blacksburg High School Vocational Unit.

**MONTROSS**—City let contract to Luck Construction Co., Richmond, \$42,931, for water supply and distribution system.

**NEWPORT NEWS**—First Baptist Church plants two additions, \$150,000.

**NORFOLK**—Navy Department, Public Works Office, let contract to Carter-Hassell Contracting Co., \$65,176, for alterations to buildings, U. S. Naval Base.

**NORTHAMPTON COUNTY**—Public School

Board, Cheriton, let contract to City Construction Co., Portsmouth, \$86,880, for Hare Valley Elementary School.

**OCEANA**—Department of Defense seeking funds for extension of runways for jet operations, Naval Auxiliary Air Station, Oceana, and Naval Air Station, Norfolk, \$8,190,000 project, of which \$3,820,000 is requested, due to own approved \$250,000 bond issue for water and sewer improvements.

**PETERSBURG**—Virginia State College received low bid from Thornton Construction Co., Richmond, \$194,483, for stadium.

**PETERSBURG**—City Construction Co., Richmond, \$47,850, for sewer sanitary lines.

**PETERSBURG**—Sawley Store, let contract to Sawley Store, Inc., Petersburg, \$175,000, for store.

**PULASKI COUNTY**—Trinkle and Dobyns, Dublin, have contract at \$81,700 for additional facilities at Clayton Lake State Park.

**PULASKI**—Town received low bid from F. L. Showalter, Inc., Lynchburg, \$341,318, for waterworks improvements.

**PULASKI**—Pulaski County sold \$2,500,000 school bond issue to Halsey, Stuart & Co., Inc., syndicate.

**RICHMOND**—Department of Highways received low bid from Atlantic Bitulithic Co., \$51,650, for widening southbound lane of Petersburg Pike.

**RICHMOND**—City received low bid from Howard-Mitchell Construction Co., \$79,724, for Fulton Hill Fire Station, No. 1.

**RICHMOND**—Public Roads Administration have completed specifications for Jamestown to Williamsburg line of Colonial Parkway, involving new causeway, \$4,000,000.

**RICHMOND**—Home Developers, Inc., let contract to Muhleman & Kayhoe, Inc., for 5 residences, \$60,000.

**RICHMOND**—Bernard Jaffe will construct 9 residences, \$45,000.

**RICHMOND**—Superintendent of Grounds and Buildings let contract to Robert M. Dunville and Brothers, Richmond, \$73,945, for Pro. A and Alt. 5, and Johnson Service Co., \$12,120, on Pro. C, for air-conditioning, Central Highway Office Building.

**RICHMOND**—Department of Highways received low bids for projects in following counties:

**Chesterfield**—U. S. Rt. 1, rebuilding 83 of a mi. approach road at A.C.L. underpass; T. E. Brown, Charlotte, N. C., \$101,630;

**Henrico and Charles City**—Rt. 5, 4.75 mi. 20-ft. pav.; T. F. Franklin, Salem, \$123,152;

**Louisa**—U. S. Rt. 38, 1.5 mi. 22-ft. macadam pav. and bridge at Jonesville; Ralph E. Mills Co., Inc., Salem, \$319,040;

**Loudoun**—Rt. 287, 2.43 mi. macadam pav.; Richard F. Kline, Frederick, Md., \$79,538;

**Prince Edward**—U. S. Rt. 460, 5.34 mi. macadam pav.; Sam Finley, Inc., Roanoke, \$212,655;

**Montgomery**—Sec. Rts. 637, 4.96 mi. hard-surf.; H. R. Nuchols, Hollins, \$86,806;

**Greene**—Sec. Rts. 38, 1.88 mi. paving and hard-surf.; H. R. Nuchols, Hollins, \$45,744;

**Scott**—Sec. Rts. 665, 3.95 mi. widening and hard-surf.; H. R. Nuchols, \$45,744;

**Halifax and Pittsylvania**—Sec. Rts. 666, 679 & 680, 7.72 mi. hard-surf.; Virginia Engineering Co., Inc., Newport News, \$84,603;

**Henrico**—Darbytown Rd., 4.70 mi. 22-ft. bltum. coated grav.; J. Courtney, King & Queen Court House, \$91,344;

**Prince Edward**—Sec. Rts. 636 and 612, 6.72 mi. hard-surf.; Walter N. Webber, Lynchburg, \$58,923;

**Loudoun**—Sec. Rts. 634, 7.38 mi. hard-surf.; Richard F. Kline, Frederick, Md., \$87,923;

**RICHMOND**—State Highway Commission let contracts for projects in following counties:

**Prince Edward**—U. S. Rt. 15, 3.88 mi. modernization between Kingsville and Keysville; T. F. Franklin, Salem, \$113,325;

**Stafford**—Rt. 17, 1.15 mi. grad. and pav.; Bero Engineering & Construction Corp., Hampton, \$94,582;

**King George**—U. S. Rt. 301, 5.27 mi. heavy-duty pav.; J. R. Ford Co., Inc., Lynchburg, \$223,003;

**Fairfax**—Rt. 350, 4.65 mi. conc. pavt. on northbound lane of Shirley Hwy.; Williams Paving Co., Inc., Norfolk, \$309,753;

**Montgomery**—Rt. 314, 0.74 of a mi. pavt.; Robert T. Main Co., Salem, \$117,047;

**Albermarle**—Sec. Rt. 795, 2.38 mi. grad. and pavt.; C. M. Moyer, Staunton, \$38,341;

**Augusta**—Sec. Rts. 608, 9.49 mi. hard-surf.; C. M. Moyer, \$108,139;

**Louisa**—Sec. Rts. 613, 6.86 mi. hard-surf.; C. M. Moyer, \$77,035;

**Fairfax**—Rt. 350, 4.64 mi. paving unfinished northbound lane of Shirley Memorial Highway; Williams Paving Co., Norfolk, \$309,753;

**RICHMOND**—Department of Highways received low bids for projects in following counties:

**Shenandoah**—U. S. Rt. 11, widening Narrow Passage Creek bridge and approaches; Garrett, Moon and Pool, Blackstone, \$90,770;

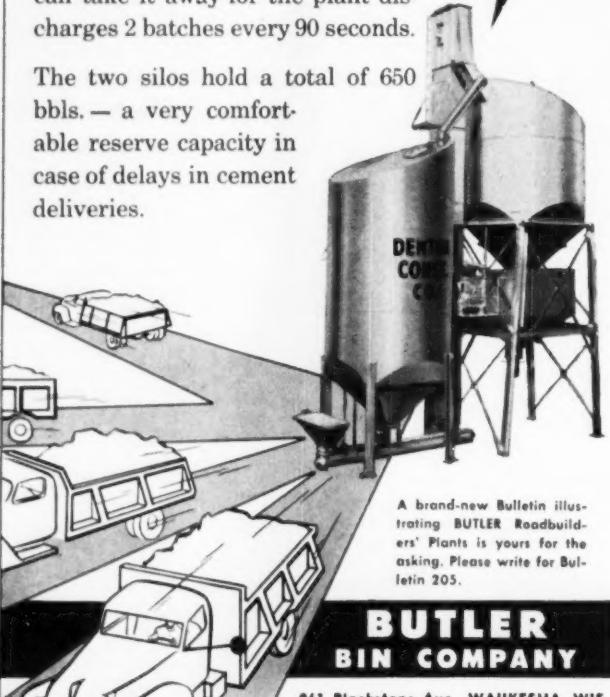
**Chesterfield**—U. S. Rt. 360, 0.82 of a mi. relocation and triple box culvert to replace

(Continued on page 56)

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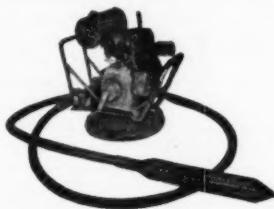
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1516 CHESTNUT ST., CHATTANOOGA, TENNESSEE

### VIRGINIA PROJECTS

(Continued from page 54)

narrow Nuttree Creek bridge; Heckler Brothers, Richmond, \$99,322.

**Surry and Sussex**—Rt. 40, Blackwater River bridge and 1.07 mi. approach road; C. H. Lawson, Williamsburg, \$94,402.

**Richmond**—Board of Education let contract to R. H. Wattinger, \$642,800, for Dunbar Elementary School.

**Richmond**—Safeway Store let contract to Howard-Mitchell Construction Co., \$200,000, for store.

**Richmond**—Murray Oldsmobile Co., Inc., let contract to J. Leonard Moore for garage, \$72,000.

**Richmond**—Federal Reserve Bank let contract to George A. Fuller Co., Washington, D. C., \$2,034,460, for addition and alterations to bank.

**Roanoke**—City let contract to Harry B. Graham Co., Charlottesville, \$129,563, for Roanoke Public Library, Elmwood Park.

**Staunton**—Board of Education plans 15-classroom elementary school, \$412,630, and additions to Robert E. Lee High School, \$572,179.

**Stuart**—City received low bid from John W. Daniel and Co., Danville, \$137,424, for additional facilities at Fairy Stone State Park.

**Waynesboro**—Board of Education received low bid from J. S. Mathers, Inc., \$164,882, for Wayne Hills Elementary School.

**Virginia Beach**—City let contract to William A. Jaeger Construction Co., Norfolk, \$65,000, for additional facilities, Seashore State Park.

### WEST VIRGINIA

Baltimore and Ohio Railroad, Baltimore, Md., let contract to Bates & Rogers Construction Corp., Chicago, Ill., for new \$1,000,000 tunnel on railroad's main line, east of Clarksburg and Keeley Construction Co., Clarksburg, for tunnel approach cuts, and other grading.

**Charleston**—State Road Commission let contracts for projects in following counties:

**Doddridge**—Proj. S-574(2), grad. base: Stickley Brothers, Inc., \$67,734.

**Hancock**—Proj. 5519, grad., pavt.; F. F. Earp, Fairmont, \$113,374.

**Marshall**—Proj. 7823, grad., pavt.; Sutton & Stewart, Inc., Bridgeport, Ohio, \$53,642.

**Ritchie and Gilmer**—Proj. S-597(1), grad.; Keeley Construction Co., Clarksburg, \$203,835.

**Charleston**—State Road Commission let contract for project in following county:

**Kanawha**—Fed. Aid Proj. FI-222(16). Sec. A, 559.40 mi. S. Charleston Corp., Line-Davis Creek Bridge Rd., 4.2 mi. con. bottom course and natural rock asph. surf. course, Standard Asphalt & Tar Co., \$181,070.

**Charleston**—State Road Commission let contract for project in following county:

**Jackson**—State Proj. 7554, 6.209 mi. Parchement Valley Rd., for grad., drain., traf. bound base (type B) revised and bridges; L. S. Coleman Co., St. Albans, \$208,290.

**Charleston**—State Road Commission received low bids for projects in following county:

**Doddridge**—Fed. Aid Sec. Proj. S-569(2). 4,828 mi. grad., drain. and traf. bound base; Stickley Brothers, Inc., Keyser, \$86,809.

**Charleston**—State Road Commission received low bids for projects in following counties:

**Braxton**—Proj. S-604(1), 4 continuous steel 148.30 mi. spans, Strange Creek bridge, No. S-1483, Agnew Construction Co., Roncoeville, \$98,194.

**Mason**—Fed. Aid Proj. F-129(4), 0.284 mi. Two Mile Creek bridge approaches; Keeley Construction Co., Clarksville, \$43,330.

**Hardy**—ERS 11(1), 1.048 mi. Harness Ford bridge approaches; Stickley Brothers, Inc., Keyser, \$37,533.

**Charleston**—State Road Commission received low bids for projects in following counties:

**Kanawha**—State Proj. 3611, 0.281 of a mi. California Ave.; Charleston Construction Co., \$17,466.

**Mason**—Fed. Aid Proj. F-129, 4.849 mi. Brush Run-Jackson County Line Rd.; Boso & Ritchie, Inc., Ravenswood, \$362,260.

**Preston and Taylor**—State Proj. 151-B-C-D-E & F, 12 mi. Thornton-Erwin Rd.; Keeley Construction Co., Clarksville, \$73,961.

**Wetzel**—State Proj. 5653, 6.2 mi. Pine Grove-Big Run-Mobley Rd.; Highway Maintenance, Claysburg, Ohio, \$62,652.

**Marietta**—City plans sewer system addition and treatment plant, \$227,200.

**Parkersburg**—City let contract to Southeastern Construction Co., Charlotte, N. C., \$587,624 for school.

### Southern Construction

(Continued from page 9)

developing. One manufacturer at least—United States Steel Corp.—has announced that it will decline to make further sales to any purchaser found to have resold steel in the gray market.

The future of the federal aid program and rivers and harbors and flood control projects is somewhat hazy. One hundred twenty million dollars has been lopped from the proposal to spend \$748,500,000 for federal aid to highway projects. The two houses are now in conflict on what steps to take on the waterway and flood work.

President Truman's instructions to the various government agencies were to screen their projects with the view to modifying program to lessen demand upon commodities, raw materials and manpower where they were in competition with those needed for the current war activities. The Corps of Engineers is now reviewing its projects, as is the Interior Department and the Department of the Navy. Military public works construction is expected to increase. No general federal building program has been authorized. The only projects under way by the General Services administration are the following:

General Accounting Office building, \$21,635,000; Federal Courts building for the District of Columbia, \$9,381,886; Clinical Center superstructure at the National Institutes of Health, \$16,814,200. These are in the Maryland and District of Columbia area. A post office annex, cost \$642,600, and a \$3,786,600 marine hospital project, both in California, make up the rest of the construction program.

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